

İÇİNDEKİLER

1. BÖLÜM : ÜÇGENLER

AÇILAR	07-09
ÜÇGENDE AÇILAR	10-11
ÜÇGENDE KENAR-AÇI BAĞINTILARI	12-12
ÜÇGENDE AÇIORTAY	13-13
ÜÇGENDE KENARORTAY	14-15
ÜÇGENDE KESEN TEOREMLERİ	16-16
DİK ÜÇGEN	17-19
İKİZKENAR VE EŞKENAR ÜÇGEN	20-21
ÜÇGENDE BENZERLİK	22-22
ÜÇGENDE ALAN	23-24
BÖLÜM İLE İLGİLİ KONU TESTLERİ	25-128
BÖLÜM İLE İLGİLİ TARAMA TESTLERİ	129-156

2. BÖLÜM : ÇOKGEN VE DÖRTGENLER

ÇOKGEN VE DÖRTGENLERDE GENEL ÖZELİKLER	157-158
PARALELKENAR	159-160
DİKDÖRTGEN - KARE	161-161
EŞKENAR DÖRTGEN - DELTOİT	162-162
YAMUK	163-164
BÖLÜM İLE İLGİLİ KONU TESTLERİ	165-220
BÖLÜM İLE İLGİLİ TARAMA TESTLERİ	221-246

3. BÖLÜM : ÇEMBERLER

ÇEMBERDE TEĞET- KİRİŞ ÖZELİKLERİ	247-248
ÇEMBERDE AÇILAR	249-249
ÇEMBERDE KESEN ÖZELİKLERİ VE KUVVET	250-251
ÇEMBERDE ÇEVRE ALAN VE BENZERLİK	252-252
BÖLÜM İLE İLGİLİ KONU TESTLERİ	253-292
BÖLÜM İLE İLGİLİ TARAMA TESTLERİ	293-316

4. BÖLÜM : UZAY GEOMETRİ VE KATI CİSİMLER

UZAYDA DOĞRU VE DÜZLEMLER	317-318
PRİZMALAR	319-320
PİRAMİTLER	321-322
BÖLÜM İLE İLGİLİ KONU TESTLERİ	323-346
BÖLÜM İLE İLGİLİ TARAMA TESTLERİ	347-366

5. BÖLÜM :

ÖSS DENEME SINAVLARI	367-390
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6. BÖLÜM :

YANIT ANAHTARLARI	391-400
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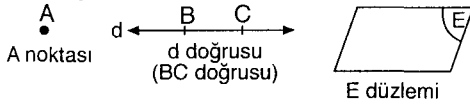
AÇILAR ve ÜÇGENLER

BÖLÜM 1

AÇILAR

GEOMETRİK KAVRAMLAR NOKTA, DOĞRU, DÜZLEM

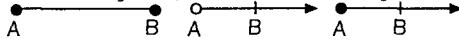
Nokta, doğru ve düzlem geometride tanımsız terimlerdir. Şekil olarak aşağıdaki gibi belirtilirler.



UZAY

Tüm noktaların kümesine uzay denir.

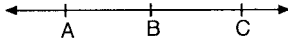
DOĞRU PARÇASI, YARIDOĞRU, IŞIN



[AB] doğru parçası [AB] yarı doğrusu [AB] ışını

[AB] doğru parçasının uzunluğu, |AB| ile gösterilir.

ARADA OLMA

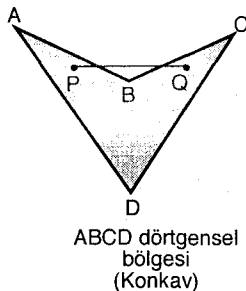
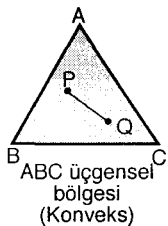
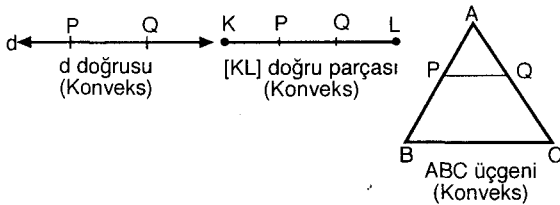


Bir doğruya ait farklı A, B, C noktaları için
|AB| + |BC| = |AC| ise B noktası A ile C arasındadır.

KONVEKS (DIŞBÜKEY) VE KONKAV (İÇBÜKEY) ŞEKİLLER

Bir K şeklinin, noktalar kümesinin her P, Q nokta ikisi için [PQ] $\subset$ K ise K kümesine konveks (dışbükey) nokta kümesi denir.

Konveks olmayan şekillere de konkav (içbükey) şekil denir.



- Konveks iki şeklin arakesitleri de konvekstir.

- Konveks iki şeklin birleşimleri konveks olmayabilir.
- İç bölgesi konveks olan çokgenlere, genellikle konveks çokgen denir.

DÜZLEM AYIRMA

Bir düzlemdeki bir d doğrusu, kendisi dışında, düzlemi iki ayrı bölgeye ayırır. Bu bölgelerin her birine yarı düzlem denir.

- Bir düzlemde bulunan n tane farklı doğru, düzlemi

en az $n + 1$, en çok $\frac{n(n+1)}{2} + 1$ ayrı bölgeye ayırır.

AÇI

Başlangıç noktaları aynı, doğrusal olmayan iki ışının birleşimine açı denir.

Şekildeki açı $\widehat{BAC}$, $\widehat{CAB}$

ya da $\hat{A}$ biçiminde yazılır.

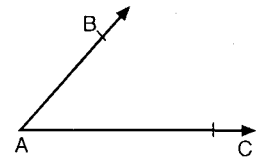
$\widehat{BAC} = [AB] \cup [AC]$ dir.

Bir açının ölçüsü, derece olarak 0 ile 180 arasında

bir gerçel sayıdır. $\widehat{BAC}$ açısının ölçüsü α ise, bu du-

rum, $m(\widehat{BAC}) = \alpha$ ya da

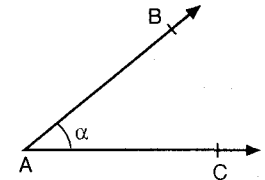
$s(\widehat{BAC}) = \alpha$ ile gösterilir.



AÇI ÇEŞİTLERİ

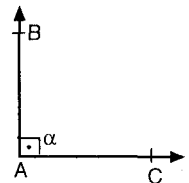
DAR AÇI : Ölçüsü 90° den küçük olan açılara **dar açı** denir.

$m(\widehat{BAC}) = \alpha < 90^\circ$ ise α dar açıdır.



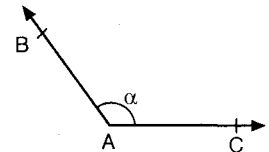
DİK AÇI : Ölçüsü 90° olan açılara, **dik açı** denir.

$m(\widehat{BAC}) = \alpha = 90^\circ$



GENİŞ AÇI : Ölçüsü 90° ile 180° arasındaki açıdır.

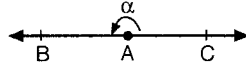
$90^\circ < \alpha < 180^\circ$



DOĞRU AÇI : Ölçüsü 180°

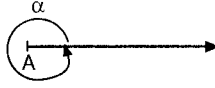
olan açıdır.

$$\alpha = 180^\circ$$



TAM AÇI : Ölçüsü 360° olan açıdır.

$$\alpha = 360^\circ$$



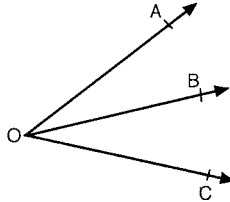
AÇILAR ARASINDAKİ BAĞINTILAR EŞ AÇILAR

Ölçüleri eşit olan açılara, eş açılar denir. A ve B açılarının ölçüleri eşitse $\hat{A}$ ile $\hat{B}$ eşittir. Bu durum $\hat{A} = \hat{B}$ biçiminde belirtilir.

KOMŞU AÇILAR

Köşeleri ve birer kenarları ortak, iç bölgeleri ayrık olan iki açiya, komşu açılar denir.

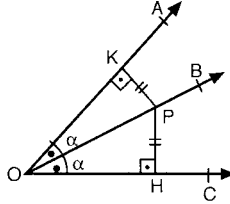
Şekilde $\hat{AOB}$ ve $\hat{BOC}$ açıları komşu açılardır.



AÇIORTAY

Bir açıyı iki eşit parçaya bölen ışına açıortay denir. [OB

ışını, $\hat{AOC}$ açısının açıortaydır.



$$m(\hat{AOB}) = m(\hat{BOC}) = \frac{m(\hat{AOC})}{2} = \alpha$$

• Açıortay üzerinde alınan herhangi bir noktadan, açının kollarına indirilen dikme uzunlukları eşittir.

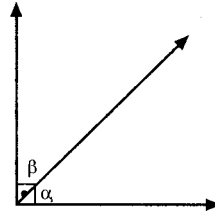
IPKI = IPHI dir.

TÜMLER AÇILAR

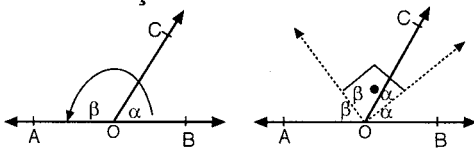
Ölçüleri toplamı 90° olan iki açiya tümler açılar denir.

$\alpha + \beta = 90^\circ$ olduğundan, α ile β birbirlerinin tümleyenidir.

• Komşu tümler iki açının, açıortaylarının oluşturduğu açı 45° dir.



BÜTÜNLER AÇILAR



$$2\alpha + 2\beta = 180 \Rightarrow \alpha + \beta = 90$$

Ölçüleri toplamı 180° olan iki açiya bütünler açılar denir. Açılar komşu ise, komşu bütünler iki açı ya da doğrusal çift adını alırlar.

$\alpha + \beta = 180^\circ$ olduğundan α ile β birbirlerinin bütünlenyenidir.

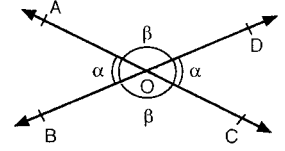
• Komşu bütünler iki açının açıortayları birbirlerine daima diktir.

TERS AÇILAR

Şekildeki [AC] ve [BD] doğrularının kesişmesi ile

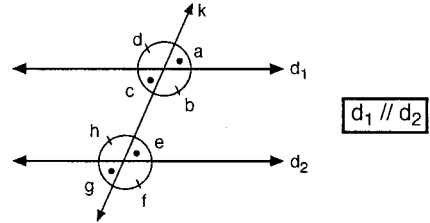
oluşan $\hat{AOB}$ ve $\hat{COD}$ açılarına ya da $\hat{AOD}$ ve

$\hat{BOC}$ açılara ters açılar denir.



Ters açılarının ölçüleri eşittir. Başka bir deyişle ters açılar eşittir.

PARALEL İKİ DOĞRUNUN BİR KESENLE YAPTIĞI AÇILAR



i) Yöndeş açılar eşittir.

$$\hat{a} = \hat{e}, \hat{b} = \hat{f}, \hat{c} = \hat{g}, \hat{d} = \hat{h}$$

ii) İç ters açılar eşittir.

$$\hat{b} = \hat{h}, \hat{c} = \hat{e}$$

iii) Dış ters açılar eşittir.

$$\hat{a} = \hat{g}, \hat{d} = \hat{f}$$

iv) Karşı durumlu açılar bütünlerdir.

$$\hat{b} + \hat{e} = 180^\circ$$

$$\hat{c} + \hat{h} = 180^\circ$$

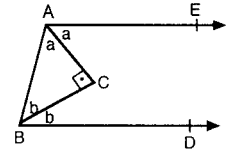
v) Yanal durumlu açılar bütünlerdir.

$$\hat{a} + \hat{f} = 180^\circ$$

$$\hat{d} + \hat{g} = 180^\circ$$

vi) [AE // [BD karşı durumlu açılarının açıortayları diktir.

$$m(\hat{ACB}) = 90^\circ \text{ dir.}$$



KENARLARI PARALEL AÇILAR

i) Kenarları aynı yönde paralel olan iki açı eşittir.

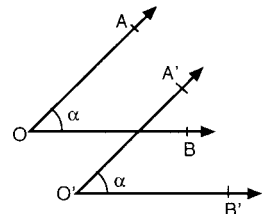
$$[OA // [O'A'$$

$$[OB // [O'B' \text{ ise}$$

$$m(\hat{AOB}) = m(\hat{A'O'B'})$$

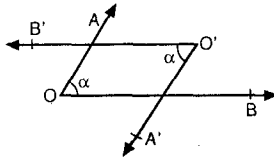
$$\text{olup } \hat{AOB} \cong \hat{A'O'B'}$$

dür.



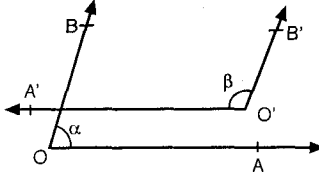
ii) Kenarları zıt yönde paralel olan iki açı eşittir.

[OA // O'A'
[OB // O'B' ise
 $m(\widehat{AOB}) = m(\widehat{A'O'B'})$
olup $\widehat{AOB} \cong \widehat{A'O'B'}$
dür.



iii) Birer kenarları aynı yönde, diğer kenarları zıt yönde paralel olan iki açı birbirinin bütünleyeni-
dir.

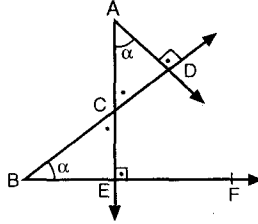
[OA // O'A'
[OB // O'B' ise
 $\alpha + \beta = 180^\circ$
dir.



KENARLARI DİK OLAN AÇILAR

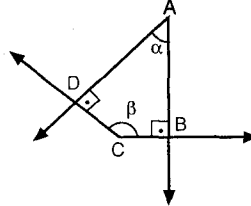
i) Kenarları dik olan dar açılar eşittir.

[AD ⊥ BD
[AE ⊥ BF ise
 $m(\widehat{CAD}) = m(\widehat{CBE})$
olup $\widehat{CAD} \cong \widehat{CBE}$ dir.



ii) Kenarları dik açılardan biri dar, diğeri geniş ise
açılar bütünlerdir.

[AB ⊥ CB
[AD ⊥ CD ise
 $\alpha + \beta = 180^\circ$ dir.



AÇI ÖLÇÜSÜ BİRİMLERİ

i) **DERECE - DAKİKA - SANİYE**

Bir derecelik açı : Bir tam açının 360 'da birine
denir.

Bir dakikalık açı : Bir derecenin 60'da birine
denir.

Bir saniyelik açı : Bir dakikanın 60'da birine
denir.

1 derece = 60 dakika, $1^\circ = 60'$

1 dakika = 60 saniye, $1' = 60''$

1 derece = 3600 saniye, $1^\circ = 3600''$ dir.

ii) **GRAD** : Bir tam açının 400'de birine 1 gradlık açı
denir.

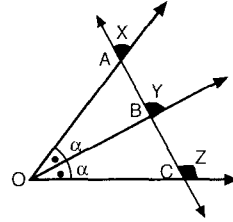
iii) **RADYAN** : Çemberde yarıçap uzunluğundaki
yayı gören merkez açıya bir radyanlık açı denir.
Bir tam açının ölçüsü 2π radyandır.

SONUÇ

$$\frac{D}{360} = \frac{G}{400} = \frac{R}{2\pi} \text{ ya da } \frac{D}{180} = \frac{G}{200} = \frac{R}{\pi} \text{ dir.}$$

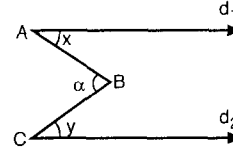
UYARILAR

i)



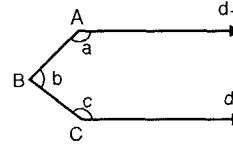
$$y = \frac{x+z}{2} \text{ dir.}$$

ii)



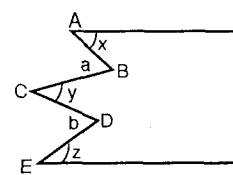
$$d_1 \parallel d_2 \text{ ise } \alpha = x + y \text{ dir.}$$

iii)



$$d_1 \parallel d_2 \text{ ise } a+b+c=360^\circ \text{ dir.}$$

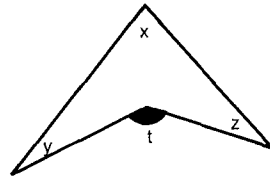
iv)



$$d_1 \parallel d_2 \text{ ise } x+y+z=a+b \text{ dir.}$$

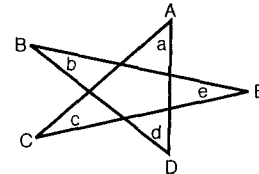
İçe dönük açılar toplamı, dışa dönük açılar toplamına
eşittir.

v)



$$x+y+z=t \text{ dir.}$$

vi)



$$a+b+c+d+e=180^\circ \text{ dir.}$$

ÜÇGENDE AÇILAR

ÜÇGEN :

Düzlemde doğrusal olmayan üç noktanın ikiser ikiser birleştirilmesiyle elde edilen şekle üçgen denir.

$$\Delta ABC = [AB] \cup [BC] \cup [AC]$$

$\hat{A}, \hat{B}, \hat{C} \rightarrow$ İçaçılar

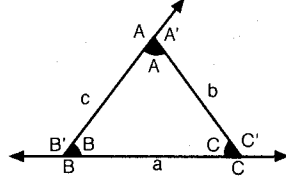
$\hat{A}', \hat{B}', \hat{C}' \rightarrow$ Dışaçılar

$a, b, c \rightarrow$ Kenar uzunlukları

$[AB], [AC], [BC] \rightarrow$ Kenarlar; $A, B, C \rightarrow$ Köşeler

$$a + b + c = \text{çevre} = 2u \text{ olur}$$

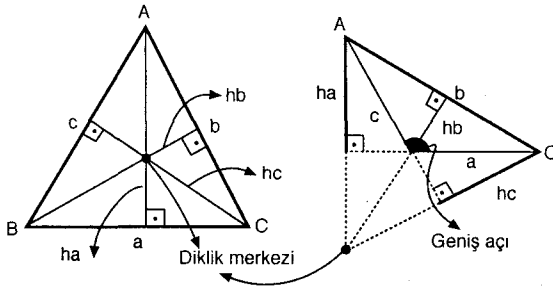
$$u = \frac{a + b + c}{2} = \frac{\text{çevre}}{2} \text{ dir.}$$



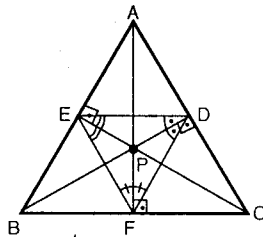
ÜÇGENDE YARDIMCI ELEMANLAR

ÖZEL NOKTALAR

1. **YÜKSEKLİK** : h : Bir üçgende tüm yükseklikler daima bir noktada kesişir. Kesim noktası üçgenin diklik merkezi ya da ortasantr noktasıdır.



Dar açılı bir üçgende diklik merkezi iç bölgede olup, yükseklik ayaklarını ikiser ikiser birleştirdiğimizde yeni bir üçgen oluşur ki, diklik merkezi olan P noktası yeni üçgende içaçıortayların kesim noktası konumundadır.



2. **KENARORTAY** : ϑ : Bir üçgende tüm kenarortaylar daima bir noktada kesişir. Kesim noktası üçgenin ağırlık merkezidir.

3. **AÇIORTAY** : n : Bir üçgende tüm içaçıortaylar daima bir noktada kesişir. Kesim noktası üçgenin kenarlarına içten teğet olan iç teğet çemberin merkezidir.

4. Bir üçgende tüm kenarların kenar orta dikmeleri daima bir noktada kesişir. Kesim noktası üçgenin köşe noktalarından geçen çevrel çemberin merkezidir.

5. Bir üçgende iki dış açıortay ile kullanılmayan üçüncü açının içaçıortayı daima üçgenin dış bölgesinde bir noktada kesişirler. Kesim noktası üçgenin kenarlarına dıştan teğet olan dış teğet çemberin merkezidir.

ÜÇGENDE AÇI BAĞINTILARI

1. Bir üçgende içaçılar toplamı 180° dir.

$$m(\hat{A}) + m(\hat{B}) + m(\hat{C}) = 180^\circ \text{ dir.}$$

2. Bir üçgende dışaçılar toplamı 360° dir.

$$m(\hat{A}') + m(\hat{B}') + m(\hat{C}') = 360^\circ \text{ dir.}$$

3. Aynı köşeye ait içaçı ile dışaçı toplamı 180° dir.

$$m(\hat{A}) + m(\hat{A}') = m(\hat{B}) + m(\hat{B}') = m(\hat{C}) + m(\hat{C}') = 180^\circ \text{ dir.}$$

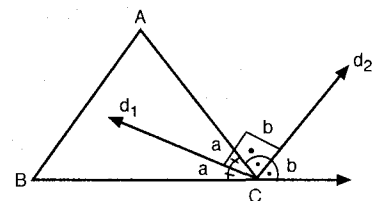
4. Bir dış açının ölçüsü, kendisine komşu olmayan iki içaçının ölçüleri toplamına eşittir.

$$m(\hat{A}') = m(\hat{B}) + m(\hat{C})$$

$$m(\hat{B}') = m(\hat{A}) + m(\hat{C})$$

$$m(\hat{C}') = m(\hat{A}) + m(\hat{B})$$

5. Aynı köşeye ait iç ve dış açıortaylar birbirine diktir.



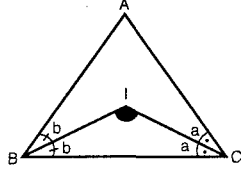
$$2a + 2b = 180^\circ$$

$$a + b = 90^\circ$$

6. Bir üçgenin iki iç açısının açıortayları arasındaki açı :

$$m(\widehat{BIC}) = 90^\circ + \frac{m(\widehat{A})}{2}$$

$$90^\circ < m(\widehat{BIC}) < 180^\circ \text{ dir.}$$

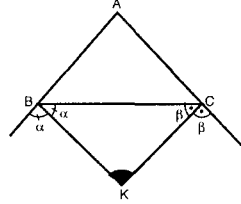


7. Bir üçgende iki dış açının açıortayları arasında kalan açının ölçüsü :

$$m(\widehat{BKC}) = 90^\circ - \frac{m(\widehat{A})}{2}$$

$$m(\widehat{BKC}) = \frac{m(\widehat{B}) + m(\widehat{C})}{2}$$

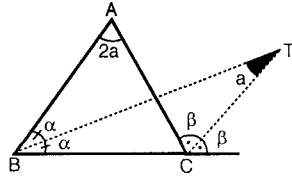
dir.



8. Bir üçgende bir içaçıortay ve bir dış açıortay arasındaki açı :

$$m(\widehat{BTC}) = \frac{m(\widehat{A})}{2}$$

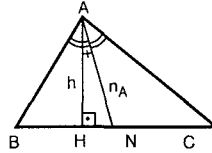
dir.



9. Bir üçgende bir köşeye ait yükseklikle, içaçıortay arasında kalan açının ölçüsü :

$$m(\widehat{HAN}) = \frac{|m(\widehat{B}) - m(\widehat{C})|}{2}$$

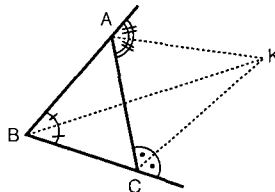
dir.



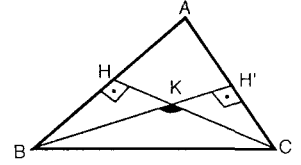
- Yükseklik ayağı, yani H noktası büyük açının olduğu köşeye daha yakındır.

$$|BH| < |HC| \Leftrightarrow m(\widehat{B}) > m(\widehat{C}) \text{ dir.}$$

10. Bir üçgende iki dışaçıortay ile kullanılmayan üçüncü açının içaçıortayı daima bir noktada kesişir.

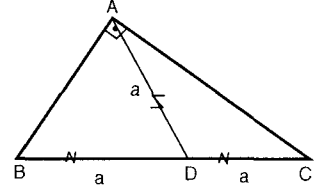


11. Bir üçgende iki yükseklik arasındaki açının ölçüsü



$$m(\widehat{BKC}) = 180^\circ - m(\widehat{A}) \text{ dir.}$$

12. Bir dik üçgende hipotenüze ait kenarortayın uzunluğu, hipotenüs uzunluğunun yarısına eşittir.



$$|AD| = \frac{|BC|}{2} \text{ dir.}$$

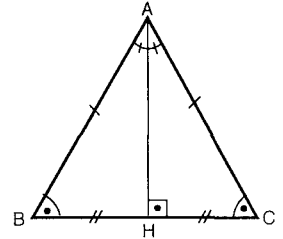
Karşıtıda daima doğrudur.

13. $|AB| = |AC| \Leftrightarrow$

$$m(\widehat{B}) = m(\widehat{C}) \text{ ve}$$

$$|AH| = h_a = \vartheta_a = n_A \text{ dir.}$$

İkizkenar bir üçgende tabana ait yükseklik aynı zamanda tabana ait kenarortay ve tepe açısına ait açıortaydır.



14. Eşkenar üçgenin her iç açısının ölçüsü 60° , her dış açısının ölçüsü 120° dir.

15. İkizkenar dik üçgenin her dar açısının ölçüsü 45° dir.

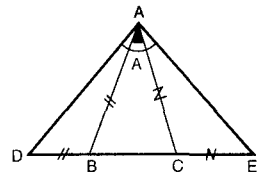
16. $|AB| = |BD|$

$$|AC| = |CE| \text{ ve}$$

$$m(\widehat{BAC}) = m(\widehat{A}) \text{ ise}$$

$$m(\widehat{DAE}) = 90^\circ + \frac{m(\widehat{A})}{2}$$

dir.

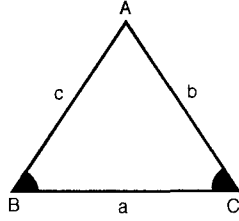


ÜÇGENDE KENAR-AÇI BAĞINTILARI

1. Bir üçgende eş açılar karşısındaki kenar uzunlukları eşittir.

$$\hat{m}(\hat{B}) \cong \hat{m}(\hat{C}) \Leftrightarrow b = c$$

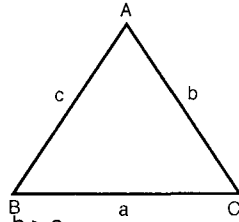
dir.



2. Bir üçgende büyük açı karşısında büyük kenar, küçük açı karşısında küçük kenar bulunur.

$$\hat{m}(\hat{A}) > \hat{m}(\hat{B}) > \hat{m}(\hat{C}) \Leftrightarrow a > b > c$$

dir.



3. Bir üçgende herhangi bir kenarın uzunluğu, diğer iki kenarın uzunlukları toplamından küçük, uzunlukları farkının mutlak değerinden büyüktür.

$$|b - c| < a < b + c$$

$$|a - c| < b < a + c$$

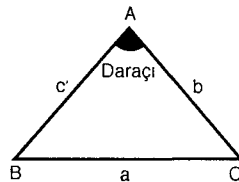
$$|a - b| < c < a + b$$

4. Bir üçgende geniş açı karşısındaki kenar en büyüktür.

5. $\hat{m}(\hat{A}) < 90^\circ$ ise

$$|b - c| < a < \sqrt{b^2 + c^2}$$

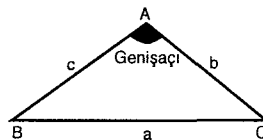
dir.



6. $\hat{m}(\hat{A}) > 90^\circ$ ise

$$\sqrt{b^2 + c^2} < a < b + c$$

dir.



7. Üçgenin dış açılarının ölçüleri

$\hat{m}(\hat{A}'), \hat{m}(\hat{B}'), \hat{m}(\hat{C}')$ olmak üzere ;

$$|\hat{m}(\hat{B}') - \hat{m}(\hat{C}')| < \hat{m}(\hat{A}') < \hat{m}(\hat{B}') + \hat{m}(\hat{C}')$$

$$|\hat{m}(\hat{A}') - \hat{m}(\hat{C}')| < \hat{m}(\hat{B}') < \hat{m}(\hat{A}') + \hat{m}(\hat{C}')$$

$$|\hat{m}(\hat{A}') - \hat{m}(\hat{B}')| < \hat{m}(\hat{C}') < \hat{m}(\hat{A}') + \hat{m}(\hat{B}')$$

dür.

8. Bir üçgende bir köşeden geçen yükseklik, içaçıortay ve kenarortay uzunlukları arasında

$$h_a \leq n_a \leq V_a$$

sıralaması vardır.

9. Bir üçgende kenarlar arasındaki sıralamanın tersi yükseklik, içaçıortay ve kenarortaylar arasında vardır.

$$a < b < c \Rightarrow h_a > h_b > h_c$$

$$a < b < c \Rightarrow \vartheta_a > \vartheta_b > \vartheta_c$$

$$a < b < c \Rightarrow n_A > n_B > n_C$$

dir.

10. $u = \frac{a+b+c}{2} = \frac{C}{2}$ olup

$$u < h_a + h_b + h_c < 2u$$

$$u < \vartheta_a + \vartheta_b + \vartheta_c < 2u$$

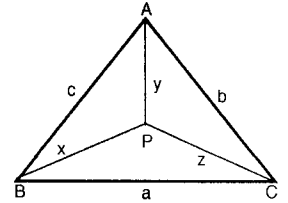
$$u < n_A + n_B + n_C < 2u$$

dur.

11. Bir üçgenin içbölgesinde alınacak olan isteksel bir noktanın üçgenin köşe noktalarına olan uzaklıklarının toplamı, yarıçevreden büyük, çevreden küçüktür.

$$u < x + y + z < 2u$$

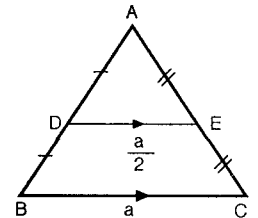
dur.



12. Bir üçgende iki kenarın orta noktalarını birleştirilen doğru parçası, üçüncü kenara paralel ve yarısına eşittir.

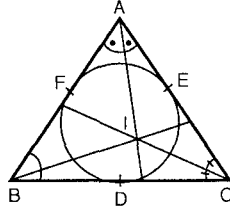
$$[DE] \parallel [BC]$$

$$\text{ve } |DE| = \frac{|BC|}{2} \text{ dir.}$$



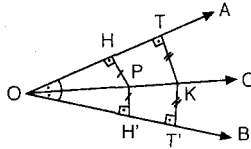
ÜÇGENDE AÇIORTAY

$$\begin{cases} [AD] = n_A \\ [BE] = n_B \\ [CF] = n_C \end{cases} \text{ içaçıortaylar}$$



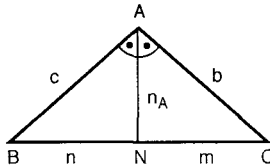
1. Bir üçgende tüm içaçıortaylar daima bir noktada kesişir. Kesim noktası üçgenin kenarlarına içten teğet olan iç teğet çemberin merkezidir.
2. Açığortay üzerindeki her nokta, açının kollarından eşit uzaklıktadır.

$$\begin{aligned} |PH| &= |PH'| \\ |KT| &= |KT'| \text{ dır.} \end{aligned}$$



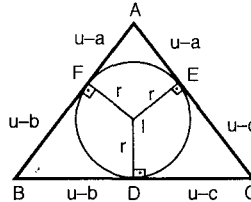
3. **İÇAÇIORTAY TEOREMİ:** Bir üçgende içaçıortay kestiği kenarı komşu kenarları oranında böler.

$$\begin{aligned} \frac{|NC|}{|NB|} &= \frac{|AC|}{|AB|} \\ \frac{m}{n} &= \frac{b}{c} \end{aligned}$$



$$4. |n_A| = |AN| = \sqrt{b \cdot c - m \cdot n} \text{ dir.}$$

5. D, E, F iç teğet çemberin kenarlara olan değme noktaları ve $|ID| = |IE| = |IF| = r$ ise,



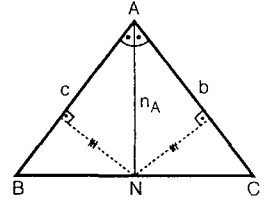
$$i) A(\triangle ABC) = u \cdot r \text{ dir.}$$

$$ii) |AE| = |AF| = u - a$$

$$|BD| = |BF| = u - b$$

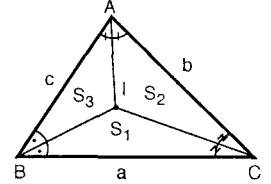
$$|CD| = |CE| = u - c \text{ dir.}$$

$$6. \frac{\widehat{A(ANC)}}{\widehat{A(ANB)}} = \frac{b}{c} \text{ dir.}$$



$$7. \frac{S_1}{a} = \frac{S_2}{b} = \frac{S_3}{c} = k$$

ise,
 $S_1 = a \cdot k$
 $S_2 = b \cdot k$
 $S_3 = c \cdot k$ dir.

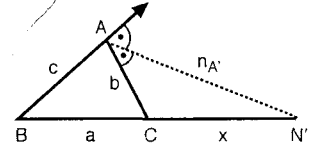


8 - DIŞAÇIORTAY TEOREMİ:

Bir dışaçıortay karşı kenarı komşu kenarlarla orantılı parçalara ayırır.

$$\frac{|N'C|}{|N'B|} = \frac{b}{c}$$

$$\frac{x}{x+a} = \frac{b}{c} \text{ dir.}$$

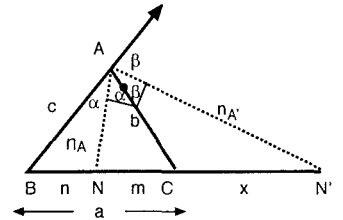


$$9. |n_{A'}| = |AN'| = \sqrt{x \cdot (x+a) - b \cdot c}$$

$$10. 2\alpha + 2\beta = 180^\circ \Rightarrow$$

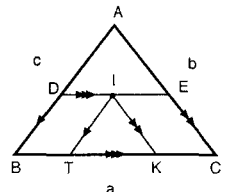
$$\alpha + \beta = 90^\circ$$

Aynı köşeden geçen iç ve dış açığortay birbirlerine diktirler.



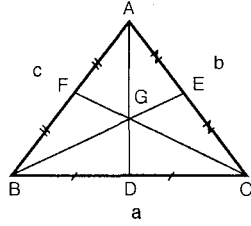
$$\begin{cases} \frac{m}{n} = \frac{b}{c} \quad (1) \\ \frac{x}{x+a} = \frac{b}{c} \quad (2) \end{cases} \left\{ \begin{array}{l} (1) \text{ ve } (2) \text{ den} \\ \frac{m}{n} = \frac{x}{x+a} \text{ dir} \end{array} \right.$$

11. i) I, içteğet çemberin merkezi
 ii) $[DE] \parallel [BC]$
 iii) $[IT] \parallel [AB]$
 iv) $[IK] \parallel [AC]$ ise
 i) $|IDE| = |BD| + |IEC|$
 ii) $\widehat{C(ADE)} = b + c$
 iii) $\widehat{C(ITK)} = a$ dir.



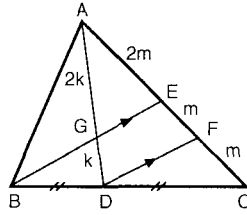
ÜÇGENDE KENARORTAY

$$\left. \begin{aligned} |AD| &= \vartheta_a \\ |BE| &= \vartheta_b \\ |CF| &= \vartheta_c \end{aligned} \right\} \text{kenarortaylar}$$



1. Bir üçgende tüm kenarortaylar daima bir noktada kesişir. Bu nokta üçgenin ağırlık merkezidir.

2. Bir üçgende kenarortaylar kenardan itibaren $\frac{1}{3}$, köşeden itibaren $\frac{2}{3}$ oranında ağırlık merkezinde kesişirler. $[BE] \parallel [DF]$ ise



$$2|CF| = 2|FE| = |EA|$$

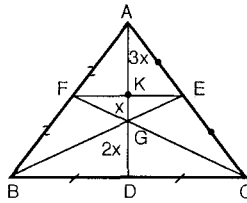
$$\frac{|DG|}{|DA|} = \frac{1}{3} \quad \text{ve} \quad \frac{|AG|}{|AD|} = \frac{2}{3}$$

3. $|AK| = 3x$

$$|KG| = x$$

$$|DG| = 2x \text{ dir.}$$

Bir kenarortayın orta noktasının, ağırlık merkezine olan uzaklığı, o kenarortayın $\frac{1}{6}$ sıdır. $\frac{|KG|}{|AD|} = \frac{1}{6}$ dir.

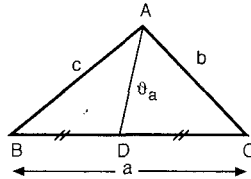


4. Kenarortay Teoremi:

$$2\vartheta_a^2 = b^2 + c^2 - \frac{a^2}{2}$$

$$2\vartheta_b^2 = a^2 + c^2 - \frac{b^2}{2}$$

$$2\vartheta_c^2 = a^2 + b^2 - \frac{c^2}{2}$$

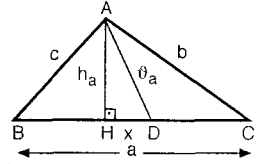


5. Kenarortay Teoremindeki bağıntılar taraf tarafa toplanır ve düzenlenirse;

$$\vartheta_a^2 + \vartheta_b^2 + \vartheta_c^2 = \frac{3}{4}(a^2 + b^2 + c^2) \text{ elde edilir.}$$

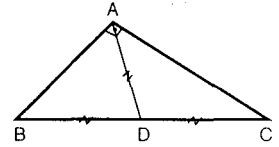
6. $[AH]$ yükseklik, $[AD]$ kenarortay, $|HD| = x$ ise,

$$x = \frac{|b^2 - c^2|}{2a} \text{ dir.}$$

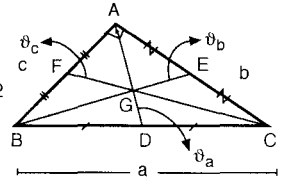


7. Bir dik üçgende hipotenüse ait kenarortay, hipotenüsün yarısına eşittir.

$$|AD| = \frac{|BC|}{2} \text{ dir.}$$



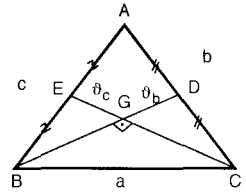
8. Bir dik üçgende $5\vartheta_a^2 = \vartheta_b^2 + \vartheta_c^2 = \frac{5}{4}a^2$ dir.



9. Bir üçgende iki kenarortay birbirine dik ise,

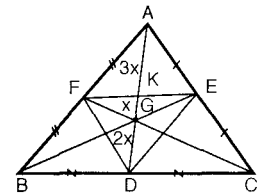
$$\vartheta_b^2 + \vartheta_c^2 = \vartheta_a^2 \text{ ve}$$

$$b^2 + c^2 = 5a^2 \text{ dir.}$$

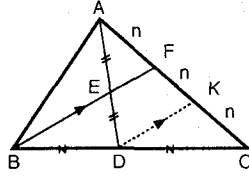


10. Bir üçgende bir kenar uzunluğu büyüdükçe bu kenara ait kenarortay uzunluğu küçülür, kenar uzunluğu küçüldükçe kenara ait kenarortay uzunluğu büyür.

11. G noktası, ABC ile DEF üçgenlerinin ağırlık merkezidir.

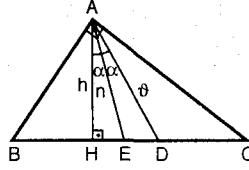


12. [AD] kenarortay, E [AD] nin orta noktası ve [BF] // [DK] ise $ICFI = 2 IAFI$ dir.



13. Bir ABC üçgeninin kenarları a, b, c ve bu kenarlara ait kenarortaylar, sırası ile V_a, V_b, V_c olmak üzere;
 $a \leq b \leq c \Leftrightarrow \vartheta_a \geq \vartheta_b \geq \vartheta_c$ dir.
 14. $u < \vartheta_a + \vartheta_b + \vartheta_c < 2u$ dur.

15. Bir dik üçgende, dik açı köşesine ait açıortay, aynı zamanda hipotenüse ait yükseklik ile kenarortay arasında kalan açının da açıortayıdır.

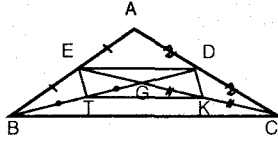


[AH] $\perp$ [BC], |BD| = |DC| ve

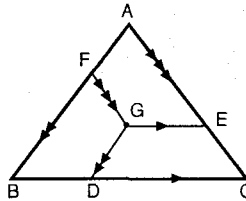
$m(\widehat{BAE}) = m(\widehat{EAC})$ ise

$$m(\widehat{HAE}) = m(\widehat{DAE}) = \alpha = \frac{|m(\widehat{B}) - m(\widehat{C})|}{2} \text{ dir.}$$

16. G ağırlık merkezi, $IBTI = ITGI$ ve $ICKI = IKGI$ ise, ETKD dörtgeni bir paralelkenardır.

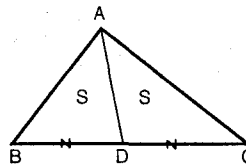


17. G ağırlık merkezi, [GE] // [BC], [GD] // [AB] ve [GF] // [AC] ise,

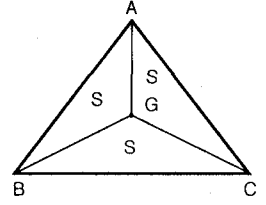


$$|GD| + |GE| + |GF| = \frac{|AB| + |AC| + |BC|}{3} \text{ dür.}$$

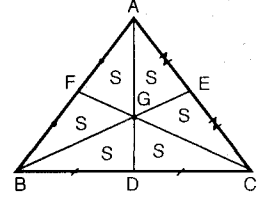
18. i) Bir üçgende kenarortay, üçgenin alanını iki eşit alana böler.



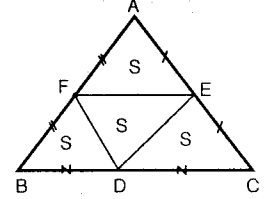
- ii) G ağırlık merkezini köşelere birleştiren doğru parçaları, üçgenin alanını üç eşit alana böler.



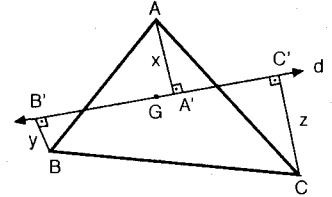
- iii) Üç kenarortay, üçgenin alanını 6 eşit alana böler.



- iv) Kenarların orta noktalarını ikişer ikişer birleştiren doğru parçaları, üçgenin alanını 4 eşit alana böler.



19.

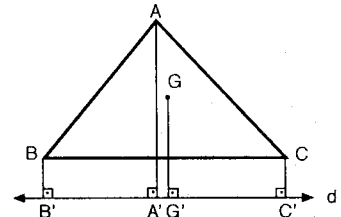


d, ağırlık merkezinden geçen bir doğru olmak üzere köşelerden bu doğruya inilen dikme uzunlukları

$IAA' = x$, $IBB' = y$ ve $ICC' = z$ ise,

$$x = y + z \text{ dir.}$$

20. G ağırlık merkezi ve d doğrusu üçgenin dış bölgesinde ise;

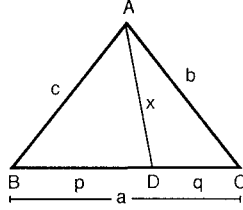


$$|IAA'| + |IBB'| + |ICC'| = 3|GG'| \text{ dir.}$$

ÜÇGENDE KESEN TEOREMLERİ

STEWART TEOREMİ:

△ABC üçgeninde D noktası [BC] kenarı üzerinde herhangi bir nokta ise



$$b^2 \cdot p + c^2 \cdot q = ax^2 + apq$$

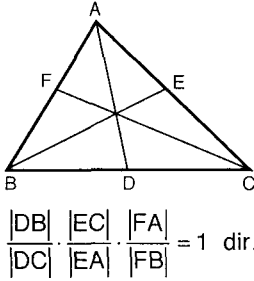
$$b^2 \cdot p + c^2 \cdot q = a(x^2 + pq)$$

$$x^2 + pq = \frac{b^2 p + c^2 q}{a}$$

$$x^2 = \frac{b^2 p + c^2 q}{p + q} - pq \text{ dur.}$$

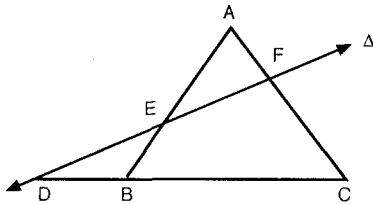
SEVA TEOREMİ:

Bir üçgenin iç bölgesinde alınacak olan isteksel bir noktayı üçgenin köşe noktalarına birleştiren doğru parçalarının uzantıları, kenarları sırasıyla D, E, F noktalarında kesiyorsa;



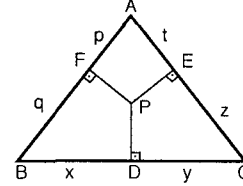
MENELAUS TEOREMİ:

Bir üçgenin kenarları bir Δ doğrusu tarafından D, E ve F gibi üç noktada kesildiğinde,



CARNOT TEOREMİ:

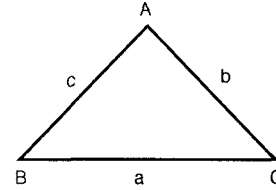
Bir üçgenin iç bölgesinde alınacak olan isteksel bir noktadan kenarlara inilen dikmelerin kenarlar üzerinde ayırmış olduğu doğru parçalarının uzunlukça birer atlanarak kareleri toplamı aralarında eşittir.



$$|BD|^2 + |CE|^2 + |AF|^2 = |DC|^2 + |EA|^2 + |FB|^2$$

$$x^2 + z^2 + p^2 = y^2 + t^2 + q^2 \text{ dir.}$$

KOSİNÜS TEOREMİ:



△ABC üçgeninde;

$$a^2 = b^2 + c^2 - 2bc \cos \hat{A}$$

$$b^2 = a^2 + c^2 - 2ac \cos \hat{B}$$

$$c^2 = a^2 + b^2 - 2ab \cos \hat{C} \text{ dir.}$$

SİNÜS TEOREMİ:

$m(\hat{ADC}) = m(\hat{ABC}) = \theta$ (Aynı yayı gören çevre açıları eşittir.) ADC dik üçgeninde

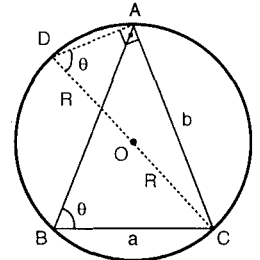
$$\sin \theta = \frac{b}{2R}$$

$$\frac{b}{\sin \theta} = 2R \text{ olur.}$$

Diğer kenarlar içinde aynı oran bulunursa;

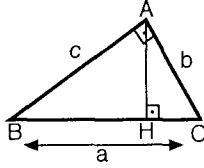
$$\frac{a}{\sin \hat{A}} = \frac{b}{\sin \hat{B}} = \frac{c}{\sin \hat{C}} = 2R$$

elde edilir.



DİK ÜÇGEN

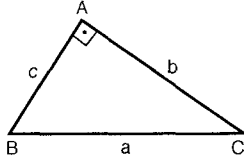
Herhangi iki kenarı dik kesişen ya da bir açısı dik açı olan üçgene **dik üçgen** denir.



Dik üçgenin diklik merkezi A noktasıdır.

Şekilde a kenarı hipotenüs, b ve c ise dik kenarlardır.

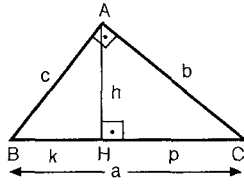
1. PİSAGOR TEOREMİ:



Bir dik üçgende dik kenarların kareleri toplamı hipotenüsün karesine eşittir.

$$a^2 = b^2 + c^2$$

2. ÖKLİD BAĞINTILARI



i) $h^2 = p \cdot k$

ii) $b^2 = p \cdot a$

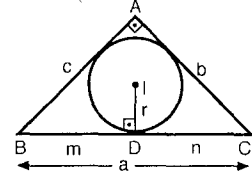
iii) $c^2 = k \cdot a$

3. $\frac{1}{h^2} = \frac{1}{b^2} + \frac{1}{c^2}$

4. $A(\widehat{ABC}) = \frac{a \cdot h}{2} = \frac{b \cdot c}{2}$

olup buradan $a \cdot h = b \cdot c$ dir.

5.



i) $A(\widehat{ABC}) = u \cdot r$

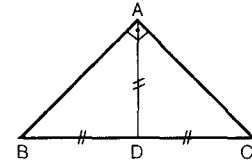
$\left(u = \frac{a + b + c}{2} \text{ dir.} \right)$

ii) $A(\widehat{ABC}) = u(u - a)$

iii) $A(\widehat{ABC}) = (u - b)(u - c)$

iv) $A(\widehat{ABC}) = m \cdot n \text{ dir.}$

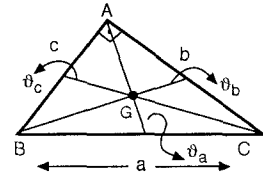
6.



Dik üçgende hipotenüse ait kenarortay hipotenüsün yarısına eşittir.

$|AD| = |BD| = |DC| \text{ dir.}$

7.

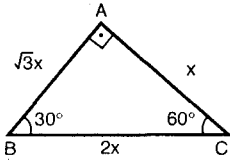


$\widehat{ABC}$ dik üçgeninde

$5\theta_a^2 = \theta_b^2 + \theta_c^2$

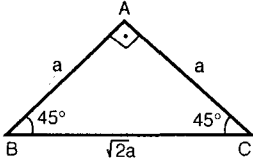
$5\theta_a^2 = \frac{5}{4}a^2 \text{ dir.}$

8.



Bir dik üçgende 30° nin karşısı hipotenüsün yarısına, 60° nin karşısı 30° nin karşısının $\sqrt{3}$ katına eşittir.

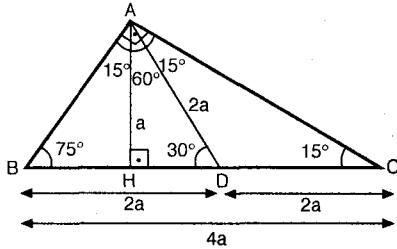
9.



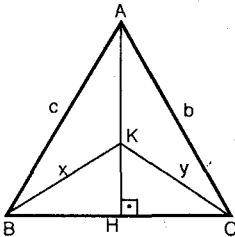
İkizkenar dik üçgende hipotenüs bir dik kenarın $\sqrt{2}$ katıdır.

10. Bir dar açısı 15° olan dik üçgende hipotenüze ait yükseklik hipotenüsün $\frac{1}{4}$ üne eşittir.

$$|AH| = \frac{|BC|}{4} \text{ ve } A(\widehat{ABC}) = 2a^2 \text{ dir.}$$



11.



$\widehat{ABC}$ üçgeninde,

$$[AH] \perp [BC]$$

$$|AC| = b$$

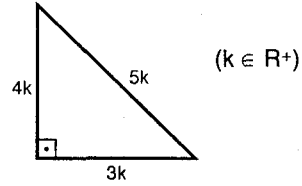
$$|AB| = c$$

$$|BK| = x$$

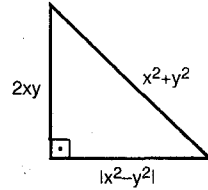
$$|CK| = y \text{ olmak üzere,}$$

$$c^2 + y^2 = b^2 + x^2 \text{ dir.}$$

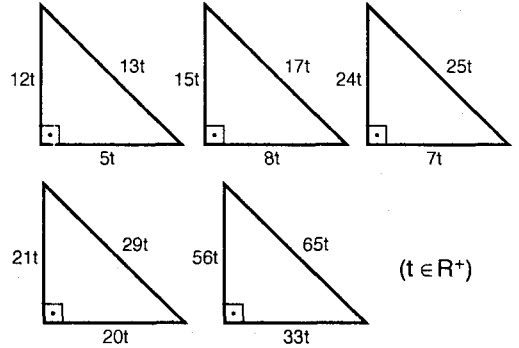
12. Kenar uzunlukları 3, 4, 5 ile orantılı olan her üçgen daima dik üçgendir. Karşısı daima doğru değildir.



13. ÖZEL DİK ÜÇGENLER

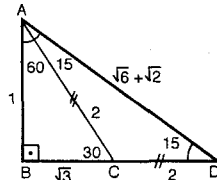


x ve y pozitif tamsayıları için bir dik üçgenin kenarları arasında şekildeki bağıntı varsa kenarları tamsayıdır.



Üçgenleri sıkça kullanılan özel dik üçgenlerdir.

14.



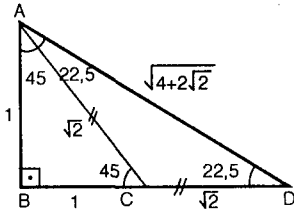
15° ve 75° nin trigonometrik oranları;

$$\cos 75^\circ = \sin 15^\circ = \frac{1}{\sqrt{6} + \sqrt{2}}$$

$$\sin 75^\circ = \cos 15^\circ = \frac{\sqrt{3} + 2}{\sqrt{6} + \sqrt{2}}$$

olarak bulunur.

15.



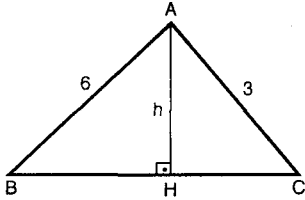
22,5° ve 67,5° nin trigonometrik oranları

$$\cos 67,5^\circ = \sin 22,5^\circ = \frac{1}{\sqrt{4+2\sqrt{2}}}$$

$$\sin 67,5^\circ = \cos 22,5^\circ = \frac{\sqrt{2}+1}{\sqrt{4+2\sqrt{2}}} \text{ olarak bulunur.}$$

16. **UYARI:** İki kenarı bilinen bir üçgenin alanı, bu kenarları dik olduğunda en büyük olur.

ÖRNEK:



Şekilde $[AH] \perp [BC]$

$|AC| = 3$ cm ve

$|AB| = 6$ cm olarak

verilmiştir.

$\widehat{A(ABC)}$ en büyük olduğunda $|AH| = h$ kaç cm. olur?

$\widehat{A(ABC)} = \frac{h \cdot |BC|}{2} = \frac{1}{2} \cdot 6 \cdot 3 \cdot \sin A$ olduğundan alanın en büyük olması $\sin A$ nın en büyük olması gerekir.

$\sin A$ en çok 1 olur. Bu ise $\widehat{A} = 90^\circ$ olması demektir.

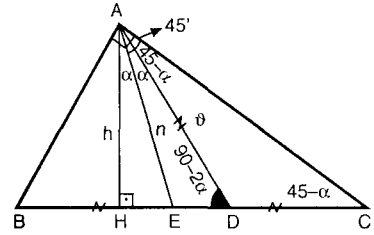
ABC dik üçgeninde Pisagor Teoremi uygulanırsa;

$$|BC|^2 = 6^2 + 3^2 \Rightarrow |BC| = 3\sqrt{5}$$

$$A(ABC) = \frac{h \cdot 3\sqrt{5}}{2} = \frac{1}{2} \cdot 6 \cdot 3 \cdot \sin 90$$

$$= h = \frac{6\sqrt{5}}{5} \text{ cm bulunur.}$$

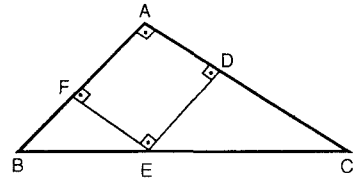
17. Bir dik üçgende dik açığa ait açıortay aynı zamanda hipotenüse ait yükseklik ile kenarortay arasında kalan açının da açıortayıdır.



$[AE]$, $\widehat{BAC}$ ile $\widehat{HAD}$ açılarının açıortayıdır.

$[AD]$, ABC üçgeninin $[BC]$ kenarına ait kenarortayıdır.

18.



Şekilde ABC bir dik üçgen ve ADEF bir kare ise $|AC| = b$, $|AB| = c$ ve $|EF| = x$ olmak üzere karenin bir kenar uzunluğu

$$x = \frac{b \cdot c}{b + c} \text{ dir.}$$

İSPAT:

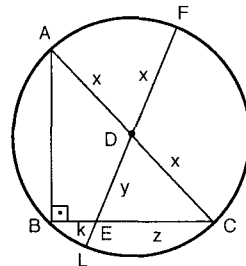
$$\frac{x}{c} + \frac{x}{b} = 1$$

$$\frac{xb + xc}{bc} = 1$$

$$x(b + c) = bc$$

$$x = \frac{bc}{b + c} \text{ bulunur.}$$

19.



Şekildeki dik üçgenin çevrel çemberinin merkezi D'dir.

$$|AD| = |DC| = |DF| = x$$

$$|DE| = y, |BE| = k$$

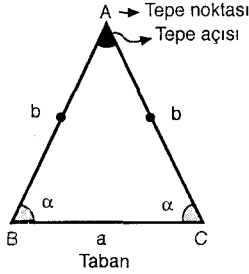
$$|EC| = z \text{ ise}$$

$$k \cdot z = x^2 - y^2 \text{ dir.}$$

İKİZKENAR VE EŞKENAR ÜÇGEN

İKİZKENAR ÜÇGEN

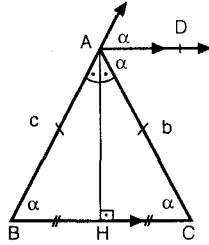
İki kenar uzunluğu ya da iki açısının ölçüsü birbirine eşit olan üçgene ikizkenar üçgen denir. İkizkenar bir üçgende farklı kenar uzunluğuna taban, farklı olan açılara tepe açısı, eşit açılara da taban açıları denir.



1. Taban açıları eşittir.

$$\widehat{m(B)} = \widehat{m(C)}$$

2. İkizkenar bir üçgende tabana ait yükseklik aynı zamanda açıortay ve kenarortaydır.



$|AB| = |AC|$ ve $[AH] \perp [BC]$ ise

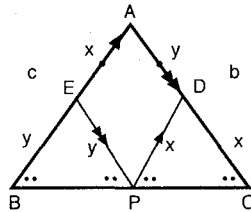
$|BH| = |HC|$ ve $\widehat{m(BAH)} = \widehat{m(CAH)}$ dir.

Tepeye ait yardımcı elemanlar çakışiktır.

$$h_a = n_a = \vartheta_a \text{ dir.}$$

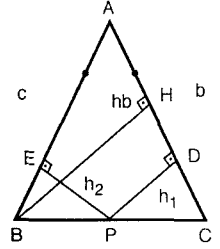
3. Eşit kenarlara ait yükseklikler birbirine eşittir.
 $h_b = h_c$ dir.
4. Eşit olan taban açılarının içaçıortay uzunlukları birbirine eşittir.
 $n_B = n_C$ dir.
5. Eşit kenarlara ait kenarortay uzunlukları birbirine eşittir. $\vartheta_b = \vartheta_c$ dir.
6. Tepeye ait dış açıortay tabana paraleldir.
 $[BC] \parallel [AD]$ dir.

7. Taban üzerindeki bir P noktasından eşit kenarlara paralel çizilirse;



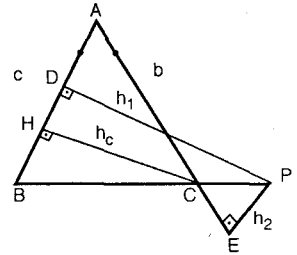
$$|PDI| + |PEI| = x + y = b = c \text{ dir.}$$

8. Taban üzerindeki bir noktadan eşit kenarlara dikme inilirse;



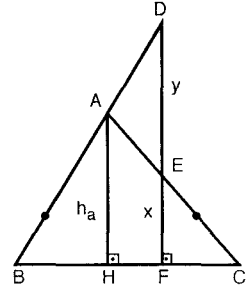
$$|PDI| + |PEI| = h_1 + h_2 = h_b = h_c \text{ dir.}$$

9. Taban uzantısındaki bir noktadan eşit kenarlara dikme inilirse;



$$|PDI| - |PEI| = h_1 - h_2 = h_b = h_c \text{ dir.}$$

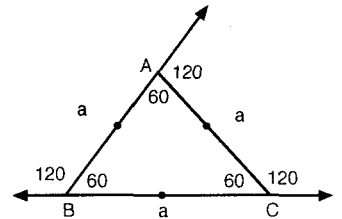
10. $|AB| = |AC|$
 $[AH] \perp [BC]$ ve
 $[DF] \perp [BC]$ ise
 $|FEI| + |FDI| = 2 |IAH|$
 $x + x + y = 2h_a$
 $2x + y = 2h_a$ dir.



EŞKENAR ÜÇGEN

Bütün kenar uzunlukları, iç açılarının ölçüleri, dış açılarının ölçüleri eşit olan üçgene eşkenar üçgen denir.

$$\varphi = 3a \text{ dir.}$$



1. Bir eşkenar üçgende her köşeye ait yardımcı elemanlar çakışık olup, tüm yardımcı elemanlar uzunlukça eşittir.

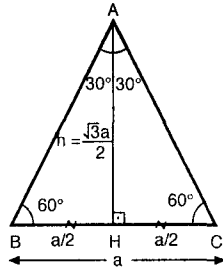
$$h_a = h_b = h_c = n_A = n_B = n_C = \vartheta_a = \vartheta_b = \vartheta_c = \frac{a\sqrt{3}}{2} \text{ dir.}$$

2. i) $h = \frac{a\sqrt{3}}{2}$

ii) $A(\triangle ABC) = \frac{a^2\sqrt{3}}{4}$

iii) $A(\triangle ABC) = \frac{h^2}{\sqrt{3}}$

$= \frac{\sqrt{3}h^2}{3}$ dür.

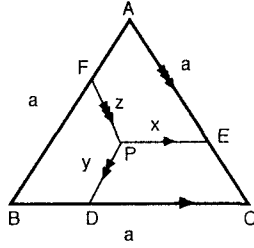


3. P, eşkenar üçgenin içinde herhangi bir nokta,

[PE] // [BC]

[PD] // [AB]

[PF] // [AC] ise



$IPEI + IPDI + IPFI = x + y + z = a$ dir.

4. P, eşkenar üçgenin içinde herhangi bir nokta,

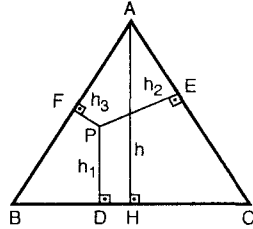
[AH] ⊥ [BC]

[PD] ⊥ [BC]

[PE] ⊥ [AC]

ve [PF] ⊥ [AB] ise

$IPDI + IPEI + IPFI = h_1 + h_2 + h_3 = h = \frac{a\sqrt{3}}{2}$ dir.

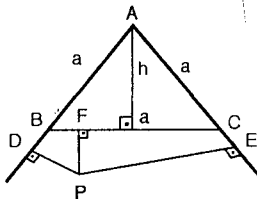


5. $\triangle ABC$ eşkenar üçgen,

[PF] ⊥ [BC]

[PD] ⊥ [AB]

ve [PE] ⊥ [AC] ise



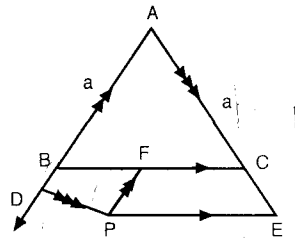
$IPDI + IPEI - IPFI = h = \frac{a\sqrt{3}}{2}$ dir.

6. $\triangle ABC$ eşkenar üçgen

[PE] // [BC]

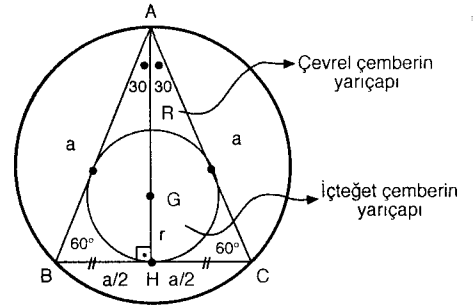
[PD] // [AC]

ve [PF] // [AB] ise



$IPDI + IPEI - IPFI = a$ dir.

7.



Bir eşkenar üçgende;

- Yüksekliklerin kesim noktası, yani diklik merkezi;
- Kenarortayların kesim noktası, yani ağırlık merkezi;
- İçaçıortayların kesim noktası, yani içteğet çemberin merkezi ve de,
- Kenar orta dikmelerin kesim noktası yani çevrel çemberin merkezi aynı olup, çakışık olup ağırlık merkezidir. bundan dolayı;

$R = 2r$

$R + r = h = \frac{a\sqrt{3}}{2}$

$2r + r = h = \frac{a\sqrt{3}}{2}$

$3r = h = \frac{a\sqrt{3}}{2}$

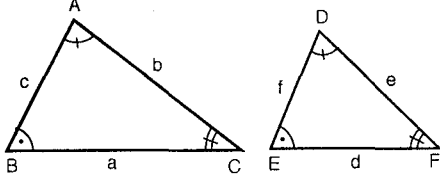
$r = \frac{h}{3} = \frac{a\sqrt{3}}{6}$

$R = 2r = \frac{2h}{3} = \frac{a\sqrt{3}}{3}$ dür.

ÜÇGENDE BENZERLİK

ÜÇGENDE BENZERLİK

İki üçgenin karşılıklı elemanları orantılı veya karşılıklı elemanları eş ise bu üçgenlere benzer üçgenler denir.



$$\widehat{m(A)} = \widehat{m(D)}, \widehat{m(B)} = \widehat{m(E)}, \widehat{m(C)} = \widehat{m(F)}$$

ise $\widehat{ABC} \sim \widehat{DEF}$ dir.

$$\frac{|BC|}{|EF|} = \frac{|AC|}{|DF|} = \frac{|AB|}{|DE|} = k, \quad k \in \mathbb{R}^+$$

k 'ya iki üçgenin benzerlik oranı denir.

Eğer $k = 1$ ise $\widehat{ABC}$ ve $\widehat{DEF}$ üçgenlerine eş üçgenler denir.

BENZERLİK TEOREMLERİ

- (A.A) Teoremi: İkişer açılarının ölçüleri eş olan üçgenler benzerdir.
- (K.A.K) Teoremi: İki üçgenin ikişer kenarları orantılı ve bu kenarlar arasındaki açıları eş ise üçgenler benzerdir.
- (K.K.K) Teoremi: İki üçgenin karşılıklı kenarları orantılı ise üçgenler benzerdir.

- Benzer üçgenlerin karşılıklı bütün elemanları uzunlukça orantılıdır.

$$\frac{a}{a'} = \frac{b}{b'} = \frac{c}{c'} = \frac{ha}{ha'} = \frac{\vartheta_a}{\vartheta_a'} = \frac{n_A}{n_A'}$$

$$= \frac{2u}{2u'} = \frac{u}{u'} = \frac{r}{r'} = \frac{ra}{ra'} = \frac{R}{R'} = k \text{ dir.}$$

- Benzer üçgenlerin alanlarının oranı benzerlik oranının karesine eşittir.

$\widehat{ABC} \sim \widehat{A'B'C'}$ ve benzerlik oranı k ise

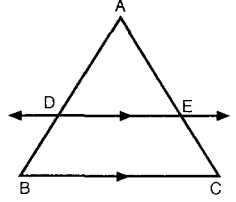
$$\frac{A(\widehat{ABC})}{A(\widehat{A'B'C'})} = k^2 \text{ dir.}$$

3 - TEMEL ORANTI TEOREMİ

Bir üçgenin iki kenarını kesen ve üçüncü kenara paralel olan bir doğru, bu kenarlar üzerinde orantılı parçalar meydana getirir.

$$\frac{|AD|}{|DB|} = \frac{|AE|}{|EC|}, \quad \frac{|AD|}{|AB|} = \frac{|AE|}{|AC|} \text{ dir.}$$

Teoremin karşısı da doğrudur.

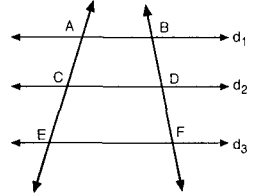


4. TALES TEOREMİ

$d_1 \parallel d_2 \parallel d_3$ ise

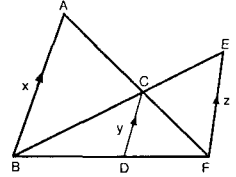
$$\frac{|AC|}{|CE|} = \frac{|BD|}{|DF|}$$

$$\frac{|AC|}{|AE|} = \frac{|BD|}{|BF|} \text{ dir.}$$

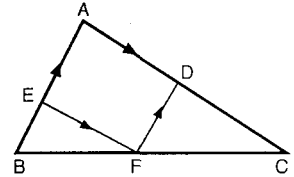


- $[AB] \parallel [CD] \parallel [EF]$ ise

$$\frac{1}{y} = \frac{1}{x} + \frac{1}{z} \text{ dir.}$$

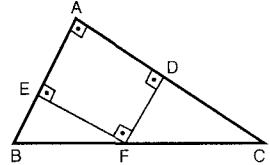


- $[EF] \parallel [AC]$,
 $[FD] \parallel [AB]$ ise
 $\frac{|EF|}{|AC|} + \frac{|FD|}{|AB|} = 1$ dir.

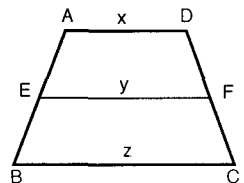


- ABC bir dik üçgen ve EFDA kare ise,
 $|AC| = b$, $|AB| = c$ ve $|EF| = x$ olmak üzere karenin bir kenar uzunluğu;

$$x = \frac{b \cdot c}{b + c} \text{ dir.}$$



- $[AD] \parallel [EF] \parallel [BC]$
 $\frac{|AE|}{|EB|} = \frac{|DF|}{|FC|} = \frac{y-x}{z-y} \text{ dir.}$



ÜÇGENDE ALAN

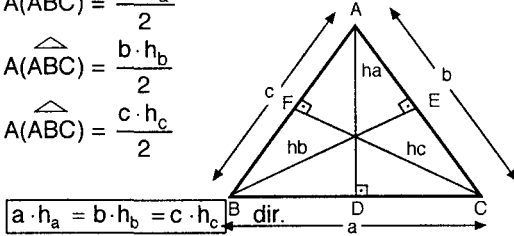
ÜÇGENDE ALAN

1. Bir üçgenin alanı, herhangi bir kenar uzunluğu ile o kenara ait yükseklik uzunluğu çarpımının yarısına eşittir.

$$A(\triangle ABC) = \frac{a \cdot h_a}{2}$$

$$A(\triangle ABC) = \frac{b \cdot h_b}{2}$$

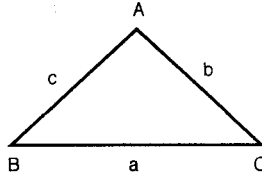
$$A(\triangle ABC) = \frac{c \cdot h_c}{2}$$



2. İki kenar uzunluğu ile kenarlar arasındaki açı belli ise;

$$A(\triangle ABC) = \frac{b \cdot c \cdot \sin A}{2}$$

$$A(\triangle ABC) = \frac{a \cdot c \cdot \sin B}{2}$$



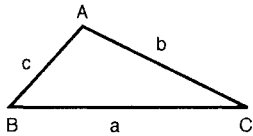
$$A(\triangle ABC) = \frac{a \cdot b \cdot \sin C}{2} \text{ dir.}$$

Açı 90° ise $\triangle ABC$ üçgeninin alanı en büyük değerini alır.

3. Kenar uzunlukları bilinen üçgenin alanı;

$$2u = a + b + c \Rightarrow u = \frac{a + b + c}{2}$$

olmak üzere



$$A(\triangle ABC) = \sqrt{u(u-a)(u-b)(u-c)} \text{ dir.}$$

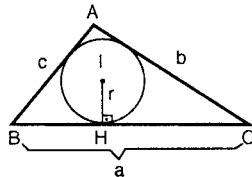
4. İçteğet çemberinin yarıçapı r ve çevresi $2u$ olan üçgenin alanı;

$$2u = a + b + c$$

$$u = \frac{a + b + c}{2}$$

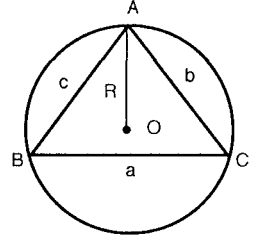
olmak üzere;

$$A(\triangle ABC) = u \cdot r \text{ dir.}$$



5. Çevrel çemberin yarıçapı R olan üçgenin alanı;

$$A(\triangle ABC) = \frac{a \cdot b \cdot c}{4R} \text{ dir.}$$

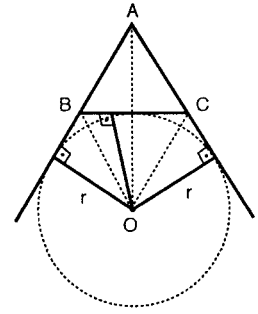


6. Dışteğet çemberlerinin yarıçapları r_a, r_b, r_c olan üçgenin alanı;

$$A(\triangle ABC) = (u - a) \cdot r_a$$

$$A(\triangle ABC) = (u - b) \cdot r_b$$

$$A(\triangle ABC) = (u - c) \cdot r_c \text{ dir.}$$

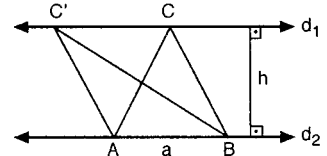


7. r , içteğet çemberinin yarıçapı, r_a, r_b, r_c dışteğet çemberlerinin yarıçapları olan üçgenin alanı;

$$A(\triangle ABC) = \sqrt{r \cdot r_a \cdot r_b \cdot r_c} \text{ dir.}$$

SONUÇLAR:

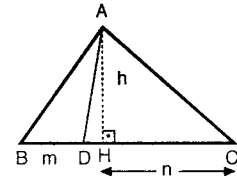
1. Yükseklikleri ve taban uzunlukları eşit olan üçgenlerin alanları eşittir.



$d_1 \parallel d_2$ ise

$$A(\triangle ABC) = A(\triangle A'B'C') \text{ dir.}$$

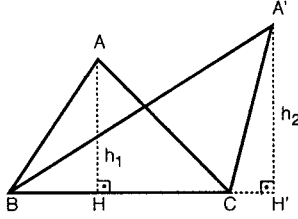
2. Yükseklikleri eşit olan üçgenlerin alanları oranı, o yüksekliğe ait taban uzunlukları oranına eşittir.



$$\frac{A(\triangle ABD)}{A(\triangle ADC)} = \frac{m}{n} \text{ dir.}$$

3. Tabanları eşit olan üçgenlerin alanları oranı, o tabana ait yükseklerinin uzunlukları oranına eşittir.

$$\frac{A(\triangle ABC)}{A(\triangle A'BC)} = \frac{h_1}{h_2} \text{ dir.}$$



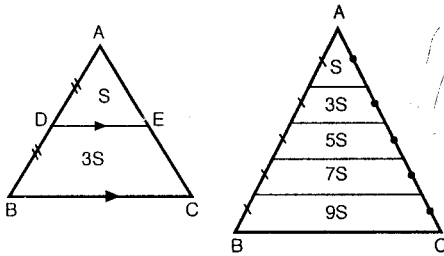
4.

$$\frac{A(\triangle ADE)}{A(\triangle ABC)} = \frac{a \cdot d}{(a+b) \cdot (c+d)} \text{ dir}$$

5.

$$A(ABDC) = \frac{|BC| \cdot |AD|}{2} \text{ dir.}$$

6. Benzer üçgenlerin alanları oranı, benzerlik oranının karesine eşittir.

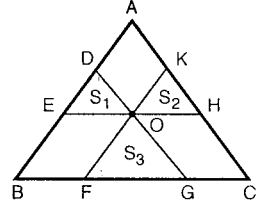


7.

$$\frac{A(\triangle DEF)}{A(\triangle ABC)} = \frac{x \cdot z \cdot m + y \cdot t \cdot n}{a \cdot b \cdot c} \text{ dir.}$$

8.

O noktasından kenarlara çizilen paralellerin oluşurduğu üçgenler için;

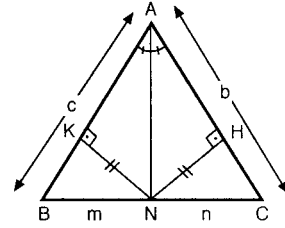


$$A(\triangle ABC) = (\sqrt{S_1} + \sqrt{S_2} + \sqrt{S_3})^2 \text{ dir.}$$

9.

$$\frac{A(\triangle ABC)}{A(\triangle DEF)} = \frac{(a+b+c)(d+e+f)}{b(e+f)+a \cdot e} \text{ dir.}$$

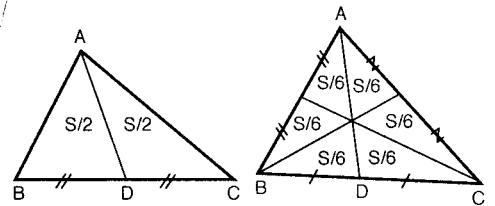
10.



ABC üçgeninde [AN] açıortay ise $\angle INK = \angle INH$ olacağından;

$$\frac{A(\triangle ABN)}{A(\triangle ACN)} = \frac{c}{b} = \frac{m}{n} \text{ dir.}$$

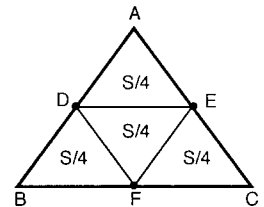
11.



Bir kenarortay üçgenin alanını 2 eş alana, üç kenarortay ise 6 eş alana ayırır.

12.

Kenarların orta noktalarını ikişer ikişer birleştiren doğru parçaları üçgenin alanını 4 eş alana ayırır.



AÇILAR

TEST 1

1. Bir $\triangle ABC$ 'de $m(\hat{A}) = 33^\circ 27' 18''$ ve $m(\hat{B}) = 96^\circ 32' 42''$ ise, **(C) açısının ölçüsü kaç derecedir?**

A) 50 B) 45 C) 40 D) 35 E) 30

2. Bir $\triangle ABC$ 'nin kenarları arasında $a^2 = b^2 + c^2$ bağıntısı olduğuna göre, $m(\hat{B}) = 53^\circ$ ise, **C açısının ölçüsü kaç derecedir?**

A) 53 B) 50 C) 47 D) 45 E) 37

3. Tümler iki açının ölçüleri oranı $\frac{2}{3}$ ise, **küçük açının bütünleri kaç derecedir?**

A) 144 B) 72 C) 54 D) 36 E) 18

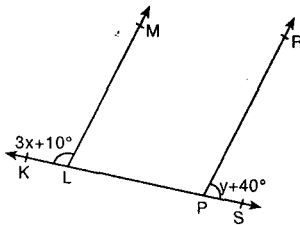
4. Bütünler iki açıdan; küçüğünün tümlerinin, büyüğüne oranı $\frac{1}{3}$ ise, **büyük olan açı kaç derecedir?**

A) 100 B) 115 C) 135 D) 140 E) 145

5. Bir açının ölçüsü, bütünlerinin 2 katından 60 fazladır. **Bu açı kaç derecedir?**

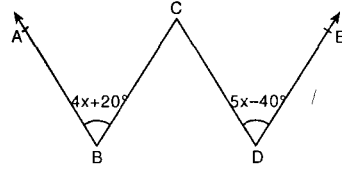
A) 150 B) 140 C) 130 D) 120 E) 110

6. Şekilde $[LM \parallel PR]$, $m(\hat{KLM}) = 3x + 10^\circ$, $m(\hat{RPS}) = y + 40^\circ$ ve $x - y = 50$ ise, **x açısı kaç derecedir?**



A) 5 B) 25 C) 45 D) 65 E) 85

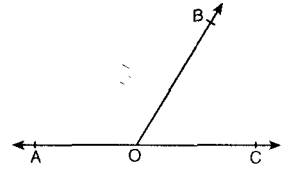
7.



Şekilde, $[DE \parallel BC]$, $[BA \parallel CD]$, $m(\hat{ABC}) = 4x + 20^\circ$, $m(\hat{CDE}) = 5x - 40^\circ$ ise, **x açısı kaç derecedir?**

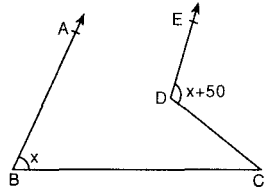
A) 40 B) 45 C) 50 D) 55 E) 60

8. Şekilde, $\hat{AOB}$ ile $\hat{COB}$ 'nin açıortayları arasında kalan **açı kaç derecedir?**



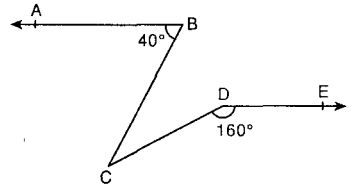
A) 45 B) 60 C) 75 D) 90 E) 105

9. Şekilde, $[BA \parallel DE]$, $m(\hat{ABC}) = x$, $m(\hat{EDC}) = x + 50^\circ$ ise **$m(\hat{BCD})$ kaç derecedir?**



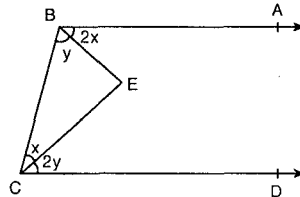
A) 80 B) 70 C) 60 D) 50 E) 40

10. Şekilde, $[BA \parallel DE]$, $m(\hat{ABC}) = 40^\circ$, $m(\hat{CDE}) = 160^\circ$ ise, **$m(\hat{BCD})$ kaç derecedir?**



A) 60 B) 50 C) 40 D) 30 E) 20

11.

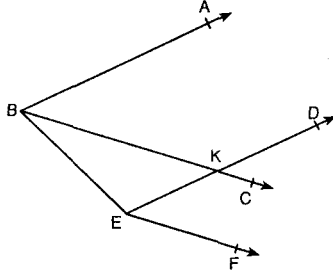


Şekilde, $[BA \parallel CD]$ ve $2m(\hat{BCE}) = m(\hat{ABE}) = 2x$

$2m(\hat{EBC}) = m(\hat{ECD}) = 2y$ ise **$m(\hat{BEC})$ kaç derecedir?**

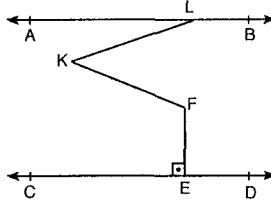
A) 100 B) 110 C) 120 D) 130 E) 140

12. Şekilde,
 $[BA \parallel ED]$,
 $[BC \parallel EF]$,
 $m(\hat{DKC}) = 30^\circ$,
 $m(\hat{ABE}) = 70^\circ$
 ise, $m(\hat{BEF})$
 kaç derecedir?



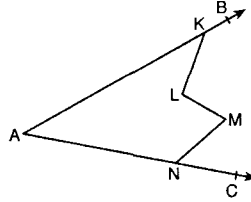
A) 125 B) 130 C) 135 D) 140 E) 145

13. Şekilde,
 $AB \parallel CD$,
 $[FE] \perp [ED]$
 $m(\hat{ALK}) = x + 20^\circ$,
 $m(\hat{KFE}) = x + 50^\circ$
 $m(\hat{LKF}) = 80^\circ$ ise,
 x kaç derecedir?



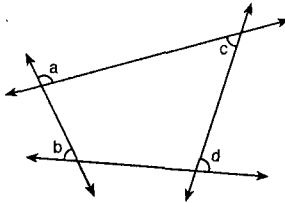
A) 70 B) 65 C) 60 D) 55 E) 50

14. Şekilde
 $m(\hat{BKL}) = 5m(\hat{AKL})$,
 $m(\hat{KLM}) = 70^\circ$,
 $m(\hat{LMN}) = 80^\circ$,
 $m(\hat{CNM}) = 50^\circ$ ise,
 $m(\hat{A})$ kaç derecedir?



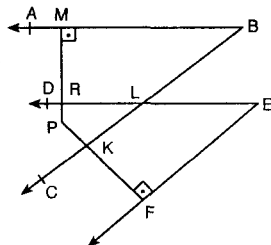
A) 10 B) 20 C) 30 D) 40 E) 50

15. Şekilde $a+b+c+d$
 toplamı kaç dik
 açıya eşittir?



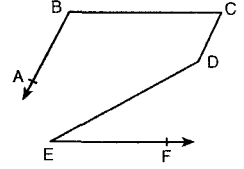
A) 5 B) 4 C) 3 D) 2 E) 1

16. Şekilde
 $[BA \parallel ED]$,
 $[BC \parallel EF]$,
 $[PM] \perp [BM]$
 $[PF] \perp [EF]$
 $m(\hat{MPF}) = 100^\circ$ ise,
 $m(\hat{BLE})$ kaç derecedir?



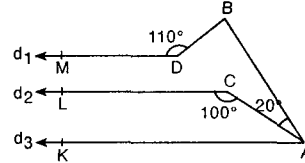
A) 85 B) 80 C) 75 D) 70 E) 65

17. Şekilde
 $[BA \parallel CD]$,
 $[BC \parallel EF]$,
 $m(\hat{ABC}) = 95^\circ$,
 $m(\hat{DEF}) = 35^\circ$ ise,
 $m(\hat{CDE})$ kaç derecedir?



A) 110 B) 120 C) 130 D) 140 E) 150

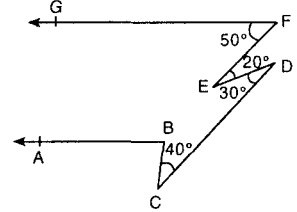
18. Şekilde



$d_1 \parallel d_2 \parallel d_3$ $m(\hat{MDB}) = 110^\circ$, $m(\hat{BAC}) = 20^\circ$,
 $m(\hat{LCA}) = 100^\circ$ ise $m(\hat{DBA})$ kaç derecedir?

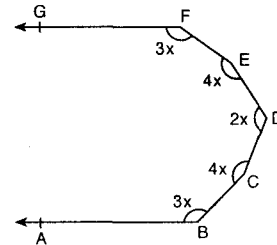
A) 50 B) 40 C) 30 D) 20 E) 10

19. Şekilde $[FG \parallel BA]$
 ve $m(\hat{GFE}) = 50^\circ$
 $m(\hat{FED}) = 20^\circ$
 $m(\hat{EDC}) = 30^\circ$
 $m(\hat{DCB}) = 40^\circ$ ise
 $m(\hat{ABC})$ kaç
 derecedir?



A) 100 B) 110 C) 120 D) 130 E) 140

- 20.



Şekilde $[FG \parallel BA]$ ve $m(\hat{GFE}) = m(\hat{ABC}) = 3x$,
 $m(\hat{FED}) = m(\hat{BCD}) = 4x$, $m(\hat{EDC}) = 2x$ ise x kaç
 derecedir?

A) 60 B) 50 C) 45 D) 30 E) 20

AÇILAR

TEST

2

1. Bir $\triangle ABC$ 'de $m(\hat{A}) = 24^\circ 18' 24''$ ve $m(\hat{B}) = 36^\circ 24' 36''$ ise, $\angle C$ açısının ölçüsü aşağıdakilerden hangisidir?

A) $118^\circ 19' 21''$ B) $118^\circ 17'$
C) $119^\circ 17'$ D) $119^\circ 16' 41''$
E) $119^\circ 16' 24''$

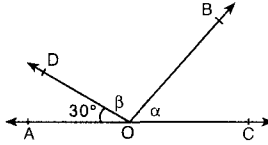
2. Bütünler iki açının ölçüleri toplamının ölçüleri farkına oranı $\frac{5}{4}$ ise, küçük açı kaç derecedir?

A) 10 B) 18 C) 24 D) 36 E) 42

3. Tümler iki açının ölçüleri, rakamları farklı ve birbirinden farklı birer tamsayıdır. Küçük açının değeri en çok kaçtır?

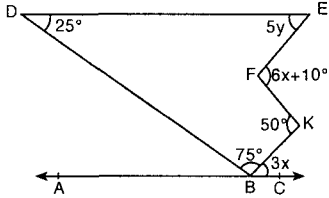
A) 89 B) 46 C) 45 D) 44 E) 43

4. Şekle göre α ile β 'nin açıortayları arasında kalan açı kaç derecedir?



A) 22,5 B) 45 C) 67,5 D) 75 E) 112,5

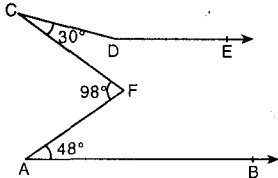
5.



Şekilde $[DE] \parallel [BA]$ ve $m(\hat{EDB}) = 25^\circ$, $m(\hat{DEF}) = 5y$, $m(\hat{EFK}) = 6x + 10^\circ$, $m(\hat{FKB}) = 50^\circ$, $m(\hat{DBK}) = 75^\circ$, $m(\hat{KBC}) = 3x$ ise y kaçtır?

A) 40 B) 50 C) 75 D) 80 E) 100

6.

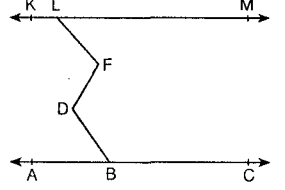


Şekilde $[DE] \parallel [AB]$ ve $m(\hat{DCF}) = 30^\circ$, $m(\hat{CFA}) = 98^\circ$, $m(\hat{FAB}) = 48^\circ$ ise $m(\hat{CDE})$ kaç derecedir?

A) 100 B) 118 C) 122 D) 148 E) 160

7.

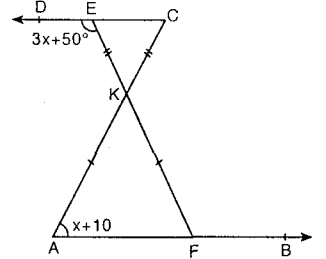
Şekilde $KM \parallel AC$,
 $m(\hat{LFD}) = 90^\circ$,
 $m(\hat{FDB}) = 100^\circ$ ve
 $m(\hat{KLF}) = 130^\circ$ ise,
 $m(\hat{DBA})$ kaç derecedir?



A) 50 B) 60 C) 70 D) 80 E) 90

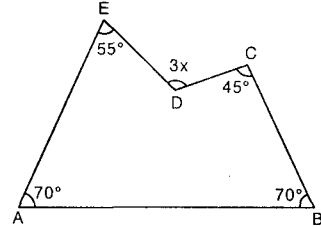
8.

Şekilde $[CD] \parallel [AB]$
 $IEKI = IKCI$
 $IKAI = IKFI$
 $m(\hat{DEK}) = 3x + 50^\circ$
 $m(\hat{CAF}) = x + 10^\circ$
ise $m(\hat{CKE})$ kaç derecedir?



A) 30 B) 50 C) 70 D) 80 E) 100

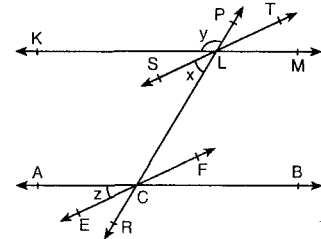
9.



Şekilde $m(\hat{EAB}) = m(\hat{CBA}) = 70^\circ$, $m(\hat{AED}) = 55^\circ$,
 $m(\hat{DCB}) = 45^\circ$, $m(\hat{EDC}) = 3x$ ise x kaç derecedir?

A) 10 B) 20 C) 30 D) 40 E) 50

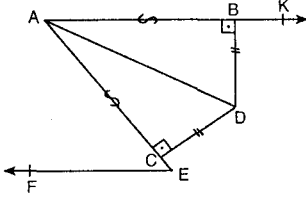
10.



Şekilde $AB \parallel KM$, $ST \parallel EF$, $m(\hat{SLC}) = x$,
 $m(\hat{KLP}) = y$, $m(\hat{ACE}) = z$ ise $(x + y + z)$ toplamı kaç dik açıya karşılık gelir?

A) 1 B) 2 C) 3 D) 4 E) 5

11.

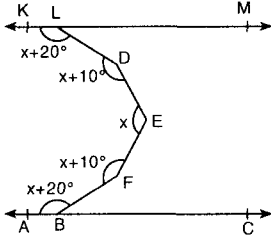


Şekilde $\{AK \parallel EF$ ve $\{AB \parallel DL$,
 $\{IBL = IACI$ ve $\{BDI = ICDI$

$m(\hat{DCE}) = 3m(\hat{BAD})$ ise, $m(\hat{ADC})$ kaç derecedir?

A) 30 B) 45 C) 60 D) 70 E) 75

12.



Şekilde $KM \parallel AC$ ve $m(\hat{KLD}) = m(\hat{ABF}) = x + 20^\circ$,

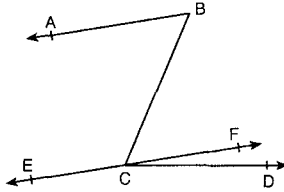
$m(\hat{DEF}) = x$, $m(\hat{LDE}) = m(\hat{EFB}) = x + 10^\circ$ ise x kaç derecedir?

A) 102 B) 112 C) 122 D) 132 E) 142

13.

Şekilde $\{BA \parallel CF$,
 $m(\hat{ABC}) = 5x + 20^\circ$,
 $m(\hat{BCD}) = 3x + 80^\circ$,
 $m(\hat{FCD}) = 25^\circ$ ise,
 x değeri kaçtır?

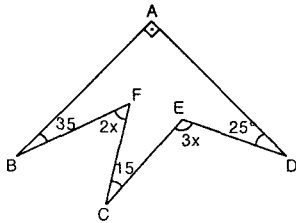
A) 12,5 B) 17,5 C) 19 D) 22,5 E) 45



14.

Şekilde
 $m(\hat{BFC}) = 2x$,
 $m(\hat{CED}) = 3x$,
 $m(\hat{ADE}) = 25^\circ$,
 $m(\hat{FCE}) = 15^\circ$,
 $m(\hat{ABF}) = 35^\circ$,
 $m(\hat{BAD}) = 90^\circ$ ise, x kaçtır?

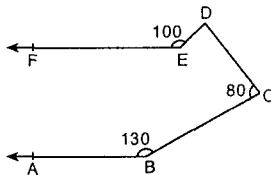
A) 36 B) 35 C) 34 D) 33 E) 32



15.

Şekilde $\{BA \parallel EF$
 $m(\hat{FED}) = 100^\circ$
 $m(\hat{DCB}) = 80^\circ$
 $m(\hat{ABC}) = 130^\circ$ ise
 $m(\hat{EDC})$ kaç derecedir?

A) 50 B) 60 C) 70 D) 80 E) 100

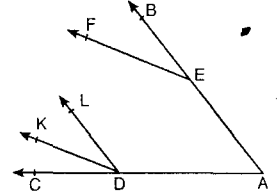


16.

Şekilde
 $\{EF \parallel DK$,
 $\{AB \parallel DL$,
 $m(\hat{KDL}) = 40^\circ$ ve
 $m(\hat{CDK}) = 30^\circ$ ise,

$m(\hat{BAC}) + m(\hat{FEB})$
 toplamının değeri kaçtır?

A) 100 B) 105 C) 110 D) 120 E) 135

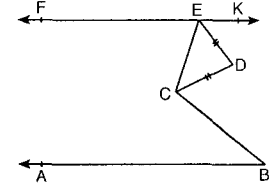


17.

Şekilde
 $\{EF \parallel BA$,
 $\{IEDI = IDC$
 $m(\hat{KED}) = 50^\circ$,
 $m(\hat{DEC}) = 40^\circ$,
 $m(\hat{DCB}) = 80^\circ$

ise, $m(\hat{CBA})$ kaç derecedir?

A) 20 B) 30 C) 35 D) 37,5 E) 42,5

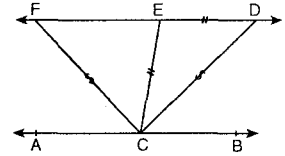


18.

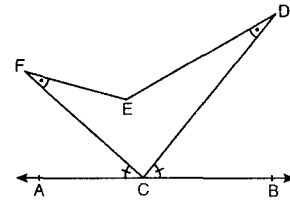
Şekilde
 $\{FD \parallel AB$ ve
 $\{FCI = ICD$
 $\{ECI = IED$
 $2m(\hat{EFC}) = m(\hat{FCE})$

ise, $m(\hat{DCB})$ kaç derecedir?

A) 72 B) 60 C) 54 D) 42 E) 36



19.



Şekilde $m(\hat{EFC}) = m(\hat{EDC}) = a$

$m(\hat{FCA}) = m(\hat{DCB}) = b$ ve $m(\hat{FED}) = 140^\circ$,

$m(\hat{DCF}) = 80^\circ$ ise $(a + b)$ kaçtır?

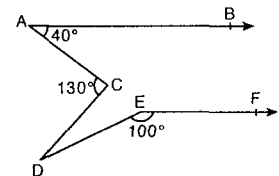
A) 30 B) 40 C) 60 D) 80 E) 100

20.

Şekilde
 $\{AB \parallel EF$
 $m(\hat{BAC}) = 40^\circ$
 $m(\hat{ACD}) = 130^\circ$
 $m(\hat{DEF}) = 100^\circ$

ise, $m(\hat{CDE})$ kaçtır?

A) 10 B) 20 C) 30 D) 40 E) 50



AÇILAR

TEST 3

1. Tümler iki açının bütünlerinin oranı $\frac{2}{3}$ ise, **küçük açı kaç derecedir?**

A) 12 B) 18 C) 24 D) 36 E) 45

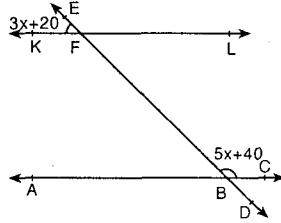
2. Tümler iki açıdan büyük olanın, diğerinin bütünlerine oranı $\frac{4}{9}$ ise **küçük açı kaçtır?**

A) 10 B) 14 C) 16 D) 18 E) 24

3. Tümler iki açının büyüğünden 10 çıkarır, küçüğüne 10 eklersek birbirine eşit oluyor. **Büyük açı kaç derecedir?**

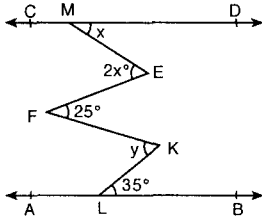
A) 25 B) 35 C) 55 D) 65 E) 75

4. Şekilde
 $AC \parallel KL$,
 $m(\widehat{EFK}) = 3x + 30^\circ$,
 $m(\widehat{FBC}) = 5x + 40^\circ$
 ise **x kaç derecedir?**



A) 15 B) 25 C) 35 D) 40 E) 50

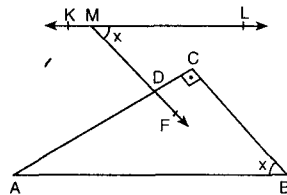
5.



Şekilde $[CD] \parallel [AB]$ ve $2.m(\widehat{DME}) = m(\widehat{MEF}) = 2x$
 $m(\widehat{FKL}) = y$, $m(\widehat{EFK}) = 25^\circ$, $m(\widehat{KLB}) = 35^\circ$ ise
 $x + y$ kaç derecedir?

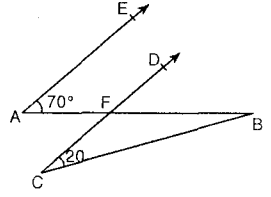
A) 25 B) 35 C) 50 D) 60 E) 65

6. Şekilde
 $[ML] \parallel [AB]$ ve
 $m(\widehat{ACB}) = 90^\circ$ ise,
 $m(\widehat{MDA})$ kaç derecedir?



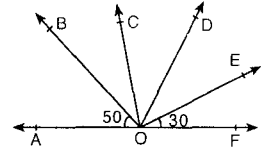
A) 100 B) 90 C) 80 D) 70 E) 65

7. Şekilde
 $[AE] \parallel [CD]$ ve
 $m(\widehat{EAB}) = 70^\circ$
 $m(\widehat{DCB}) = 20^\circ$ ise
 $m(\widehat{CBA})$ kaç derecedir?



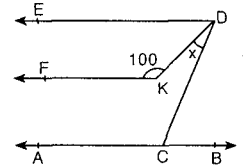
A) 90 B) 80 C) 65 D) 50 E) 40

8. Şekilde
 $[OC, \widehat{DOA}$ 'nın,
 $[OD; \widehat{COF}$ 'nin açıortayı
 ve $m(\widehat{AOB}) = 50^\circ$
 $m(\widehat{EOF}) = 30^\circ$ ise **$m(\widehat{COB})$ kaç derecedir?**



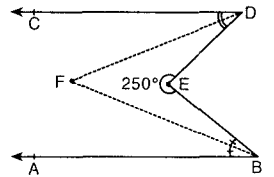
A) 30 B) 20 C) 15 D) 10 E) 5

9. Şekilde
 $[DE] \parallel [KF] \parallel [CA]$ ve
 x 'in en büyük tamsayı
 değeri kaçtır?



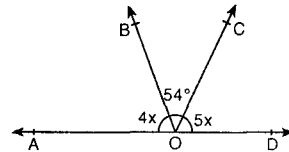
A) 59 B) 61 C) 71 D) 89 E) 99

10. Şekilde
 $[DF; \widehat{CDE}$ 'nin
 $[BF; \widehat{EBA}$ 'nın açıortayı
 ve $m(\widehat{DEB}) = 250^\circ$ ise
 $m(\widehat{DFB})$ kaç derecedir?



A) 50 B) 55 C) 85 D) 90 E) 110

11.



Şekilde $m(\widehat{AOB}) = 4x$, $m(\widehat{COD}) = 5x$, $m(\widehat{BOC}) = 54^\circ$
 ise **$\widehat{AOB}$ ile $\widehat{COD}$ 'nin açıortayları arasındaki açı kaç derecedir?**

A) 57 B) 70 C) 83 D) 93 E) 117

12. Şekilde
 $EL \parallel AB$,
 $IECI = IFKI = IFKI$
 $[EF] \perp [DC]$

$$m(\hat{KCB}) = 30^\circ$$

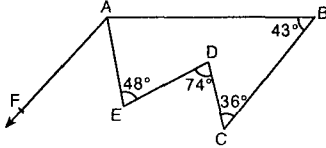
ise, $m(\hat{ECA})$ kaç derecedir?

- A) 80 B) 70 C) 60 D) 50 E) 40

13. Şekilde
 $[FK] \parallel [BA]$ ve
 $m(\hat{KFE}) = m(\hat{EDB})$
 $m(\hat{DBA}) = 50^\circ$
 $m(\hat{DGF}) = 100^\circ$ ise
 $m(\hat{DEF})$ kaç derecedir?

- A) 30 B) 40 C) 60 D) 70 E) 80

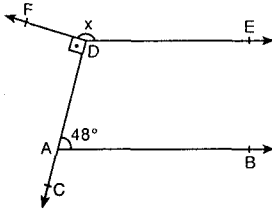
14.



Şekilde $[AF] \parallel [BC]$ ve $m(\hat{AED}) = 48^\circ$, $m(\hat{EDC}) = 74^\circ$
 $m(\hat{DCB}) = 36^\circ$, $m(\hat{ABC}) = 43^\circ$ ise $m(\hat{EAB})$ kaç derecedir?

- A) 127 B) 120 C) 112 D) 107 E) 97

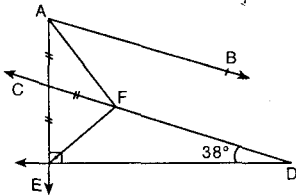
15.



Şekilde $[DE] \parallel [AB]$ ve $[DF] \perp [DC]$, $m(\hat{DAB}) = 48^\circ$,
 $m(\hat{FDE}) = x$ ise x kaçtır?

- A) 98 B) 103 C) 120 D) 128 E) 138

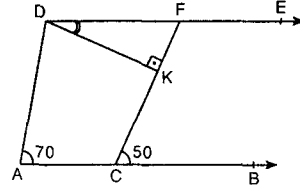
16.



Şekilde $[AB] \parallel [DC]$, $[AE] \perp [ED]$, $IACI = ICEI = ICFI$
ve $m(\hat{EDF}) = 38^\circ$ ise, $m(\hat{BAF})$ kaç derecedir?

- A) 13 B) 26 C) 38 D) 44 E) 52

17.

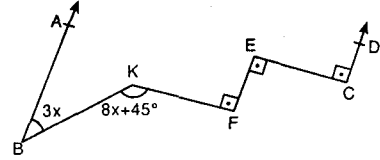


$[DE] \parallel [AB]$ ve $[DK] \perp [FC]$, $m(\hat{DAC}) = 70^\circ$,

$m(\hat{FCB}) = 50^\circ$ ise $m(\hat{KDA})$ kaç derecedir?

- A) 40 B) 50 C) 60 D) 70 E) 80

18.

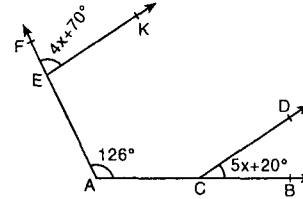


Şekilde $[BA] \parallel [CD]$ ve $[KF] \perp [EF]$, $[EF] \perp [EC]$,

$[EC] \perp [CD]$, $m(\hat{BKF}) = 8x + 45^\circ$, $m(\hat{ABK}) = 3x$ ise
 $m(\hat{BKF})$ kaç derecedir?

- A) 123 B) 117 C) 114 D) 112 E) 108

19.

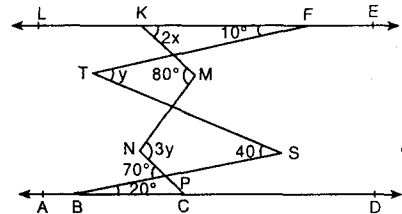


Şekilde $[EK] \parallel [CD]$ ve $m(\hat{FEK}) = 4x + 70^\circ$,

$m(\hat{DCB}) = 5x + 20^\circ$, $m(\hat{EAC}) = 126^\circ$ ise $m(\hat{ACD})$ kaç derecedir?

- A) 100 B) 114 C) 120 D) 126 E) 140

20.



Şekilde, $EL \parallel AD$ ve $m(\hat{FKM}) = 2x$, $m(\hat{LFT}) = 10^\circ$

$3.m(\hat{FTS}) = m(\hat{MNC}) = 3y$, $m(\hat{KMN}) = 80^\circ$, $m(\hat{BST}) = 40^\circ$

$m(\hat{NPB}) = 70^\circ$, $m(\hat{PBC}) = 20^\circ$ ise $x + y$ kaçtır?

- A) 30 B) 40 C) 45 D) 50 E) 60

AÇILAR

TEST 4

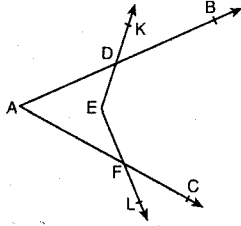
1. Bütünler iki açının ölçüleri oranı $\frac{3}{5}$ ise, küçük açının tümünün ölçüsü kaç derecedir?

A) 22,5 B) 23,5 C) 25 D) 32,5 E) 37,5

2. Tümünün bütünleri ile tümünün farkı 40° olan açı kaç derecedir?

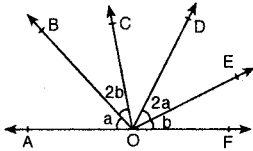
A) 70 B) 50 C) 30 D) 20 E) 10

3. Yandaki şekle göre, hangisi yanlıştır?
(Açının iç bölgesi parantezle gösterilmiştir.)



- A) $\widehat{BAC} \cap \widehat{KEL} = \{D, F\}$
B) $\widehat{BAC} \cap \widehat{BDK} = \{DB\}$
C) $\widehat{KEL} \cap \widehat{CFL} = \{FL\}$
D) $\widehat{BDA} \cap \widehat{KEL} = \{D\}$
E) $(\widehat{BDK}) \cap (\widehat{FLC}) = \emptyset$

4.



Şekilde $m(\widehat{DOE}) = 2m(\widehat{AOB}) = 2a$

$m(\widehat{BOC}) = 2m(\widehat{EOF}) = 2b$ ve $m(\widehat{COD}) = 45^\circ$ ise,

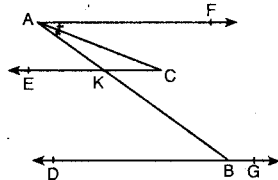
$m(\widehat{BOE})$ kaçtır?

- A) 45 B) 67,5 C) 90
D) 112,5 E) 135

5. Şekilde
[AF] // [CE] // [BD],
[AC], $\widehat{FAB}$ 'nın
açıortayı ve

$m(\widehat{ACK}) = 20^\circ$ ise,

$m(\widehat{ABG})$ kaç
derecedir?

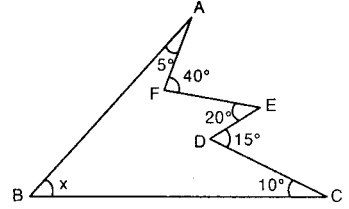


- A) 140 B) 130 C) 120 D) 110 E) 100

6. Şekilde
verilen
ölçülere

göre

$m(\widehat{ABC}) = x$
kaç
derecedir?



- A) 5 B) 10 C) 15 D) 18 E) 20

7. Şekilde
[EF] // [BA] ve

$m(\widehat{FED}) = x$

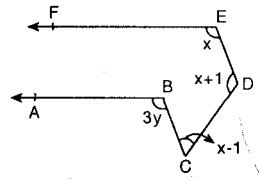
$m(\widehat{EDC}) = x+1$

$m(\widehat{DCB}) = x-1$

$m(\widehat{ABC}) = 3y$

ise $|x - y|$ kaçtır?

- A) 45 B) 60 C) 75 D) 90 E) 120

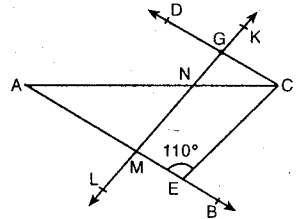


8. Şekilde
[CD] // [AB] ve
 $\triangle$
[MN], AEC'nin
orta tabanı,

$m(\widehat{AEC}) = 110^\circ$

ise, $m(\widehat{DGN})$ kaç
derecedir?

- A) 110 B) 100 C) 90 D) 80 E) 70



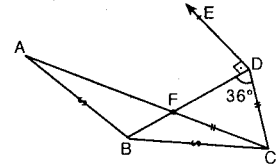
9. Şekilde
[DE] // [BA],
|AB| = |BC|,
|CF| = |CD|

$m(\widehat{FDC}) = 36^\circ$ ve

$m(\widehat{EDB}) = 90^\circ$ ise,

$m(\widehat{ACB})$ kaç derecedir?

- A) 36 B) 48 C) 54 D) 60 E) 66



10. Şekilde

$m(\widehat{AOB}) = a$,

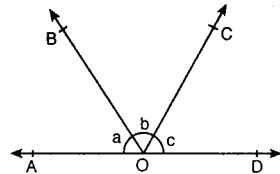
$m(\widehat{BOC}) = b$,

$m(\widehat{COD}) = c$ ve

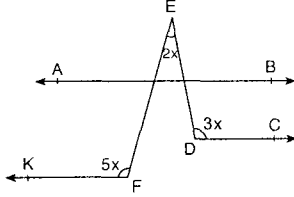
$5a = 3b$, $2b = c$ ise,

$m(\widehat{BOD})$ kaç derecedir?

- A) 120 B) 130 C) 140 D) 150 E) 160

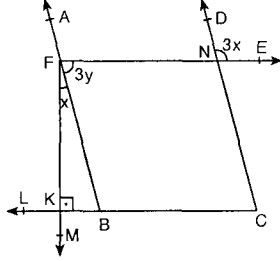


11. Şekilde
 $AB \parallel DC \parallel FK$ ve
 $m(\widehat{FED}) = 2x$
 $m(\widehat{EDC}) = 3x$
 $m(\widehat{EFK}) = 5x$ ise
 x kaçtır?



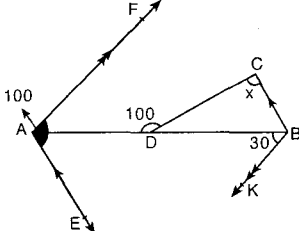
A) 30 B) 45 C) 60 D) 75 E) 90

12. Şekilde
 $m(\widehat{BFN}) = 3y$
 $m(\widehat{DNE}) = 3x$
 $m(\widehat{MFB}) = x$
 $FE \parallel CL$,
 $BA \parallel CD$ ise,
 $ly - xl$ kaçtır?



A) 10 B) 20 C) 30 D) 45 E) 60

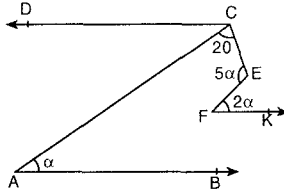
13.



Şekilde $BC \parallel AE$, $AF \parallel BK$ ve
 $m(\widehat{ADC}) = m(\widehat{FAE}) = 100^\circ$, $m(\widehat{ABK}) = 30^\circ$ ise
 $m(\widehat{DCB}) = x$ kaçtır?

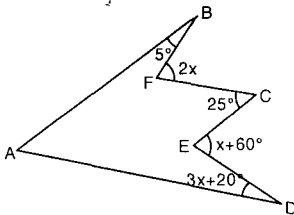
A) 70 B) 50 C) 40 D) 30 E) 20

14. Şekilde
 $CD \parallel AB \parallel FK$ ve
 $m(\widehat{CAB}) = \alpha$
 $m(\widehat{KFE}) = 2\alpha$
 $m(\widehat{CEF}) = 5\alpha$
 $m(\widehat{ACE}) = 20^\circ$ ise
 α kaçtır?



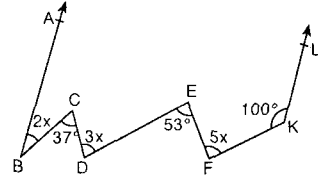
A) 20 B) 30 C) 40 D) 50 E) 60

15. Şekilde
 $m(\widehat{BFC}) = 2x$
 $m(\widehat{CED}) = x + 60^\circ$
 $m(\widehat{EDA}) = 3x + 20^\circ$
 $m(\widehat{ABF}) = 5^\circ$
 $m(\widehat{FCE}) = 25^\circ$ ise
 $m(\widehat{BAD})$ kaç derecedir?



A) 10 B) 15 C) 20 D) 30 E) 35

16.

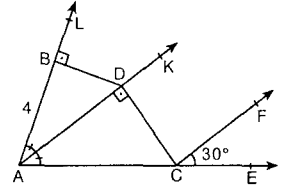


Şekilde $BA \parallel KL$ ve $m(\widehat{ABC}) = 2x$, $m(\widehat{CDE}) = 3x$,
 $m(\widehat{EFK}) = 5x$, $m(\widehat{BCD}) = 37^\circ$, $m(\widehat{DEF}) = 53^\circ$,
 $m(\widehat{FKL}) = 100^\circ$ ise x kaç derecedir?

A) 15 B) 17 C) 25 D) 29 E) 34

17. Şekilde AK ;

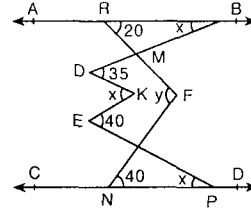
BAC 'nın açıortayı,
 $AL \perp BD$
 $AK \perp DC$
 $AD \parallel CF$ ve



$m(\widehat{FCE}) = 30^\circ$
 $IAB = 4$ br ise IDC kaç br'dir?

A) $4\sqrt{3}$ B) 4 C) $\frac{8}{3}$ D) $\frac{4}{3}$ E) 2

18.

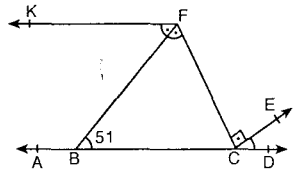


Şekilde $AB \parallel CD$ ve $m(\widehat{ABM}) = m(\widehat{DKE}) = m(\widehat{EPN}) = x$
 $m(\widehat{RFN}) = y$, $m(\widehat{BRM}) = 20^\circ$, $m(\widehat{BCK}) = 35^\circ$
 $m(\widehat{KEP}) = m(\widehat{FND}) = 40^\circ$ ise $x + y$ kaç derecedir?

A) 25 B) 40 C) 45 D) 65 E) 85

19. Şekilde
 $FK \parallel BC$ ve

$m(\widehat{KFB}) = m(\widehat{BFC})$
 $m(\widehat{FBC}) = 51^\circ$
 $m(\widehat{FCE}) = 90^\circ$

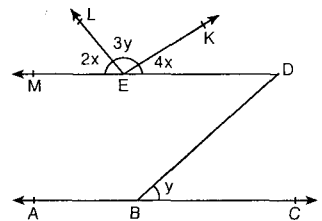


ise $m(\widehat{ECD})$ kaç derecedir?

A) 12 B) 18 C) 24 D) 30 E) 36

20. Şekilde
 $BC \parallel DE$,
 $EK \parallel BD$ ve

$m(\widehat{MEL}) = 2x$,
 $m(\widehat{KED}) = 4x$,
 $m(\widehat{KEL}) = 3y$,
 $m(\widehat{DBC}) = y$ ise y
 $kaç derecedir?$

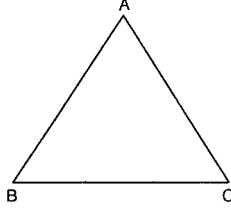


A) 10 B) 20 C) 30 D) 40 E) 50

ÜÇGENDE AÇILAR

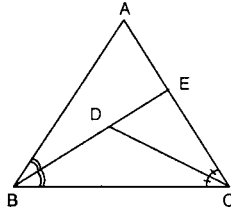
TEST 1

1. Şekilde $\triangle ABC$ 'nin kenarları birer tamsayı ve kenarlar arasında $(b.a)^2 - (c.b)^2 = a^4 - c^4$ bağıntısı varsa $m(\hat{ABC})$ kaç derecedir?



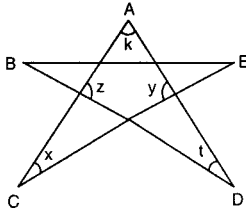
A) 45 B) 60 C) 75 D) 80 E) 90

2. Şekilde [BE] ve [CD] açıortay ve $m(\hat{BAC}) = 60^\circ$ ise $m(\hat{EDC})$ kaç derecedir?



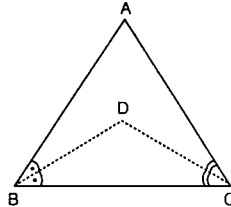
A) 30 B) 45 C) 55 D) 60 E) 70

3. Yandaki şekilde, $x + y + z + t = 230^\circ$ ise k kaçtır?



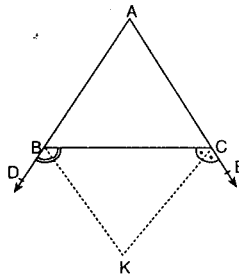
A) 45 B) 50 C) 60 D) 65 E) 75

4. Şekilde [BD] ve [CD] açıortay $m(\hat{BAC}) = 2x - 30^\circ$, $m(\hat{BDC}) = 3x + 20^\circ$ ise x kaç derecedir?



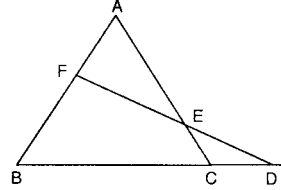
A) 22,5 B) 27,5 C) 32
D) 32,5 E) 37,5

5. Şekilde [BK] ve [CK] açıortay $m(\hat{BAC}) = 8x + 80^\circ$, $m(\hat{BKC}) = 5x - 40^\circ$ ise x kaç derecedir?



A) 10 B) 12 C) 15 D) 18 E) 21

6.

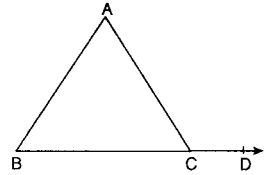


Şekilde $2.m(\hat{ABC}) = 3.m(\hat{BAC}) = 6.m(\hat{FDB})$ ve $m(\hat{AFE}) = 72^\circ$ ise $m(\hat{FEC})$ kaç derecedir?

A) 18 B) 36 C) 54 D) 72 E) 108

7.

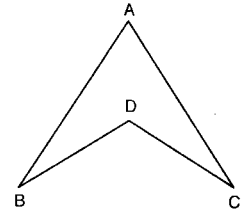
Şekilde $m(\hat{BAC}) = x + 2y$, $m(\hat{ABC}) = y + 2x$, $m(\hat{ACD}) = z$ ve $x + y + z = 100^\circ$ ise z kaç derecedir?



A) 25 B) 50 C) 75 D) 80 E) 90

8.

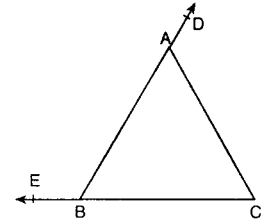
Şekilde $m(\hat{BAC}) = x + 2y$, $m(\hat{ABD}) = y - 2x$, $m(\hat{ACD}) = 2x - 2y$ ve $m(\hat{BDC}) = 160^\circ$ ise $(x + y)$ kaç derecedir?



A) 200 B) 180 C) 160 D) 140 E) 120

9.

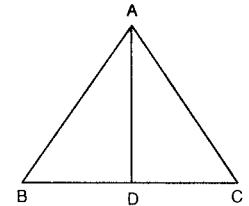
Şekilde, $m(\hat{DAC}) = 2x - 30^\circ$, $m(\hat{EBA}) = 3x + 40^\circ$ ve $m(\hat{ACB}) = 50^\circ$ ise x kaç derecedir?



A) 11 B) 22 C) 33 D) 44 E) 55

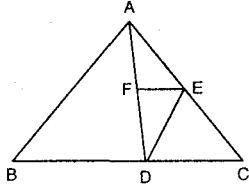
10.

Şekilde $IADI = IDCI$ ve $m(\hat{BAD}) = 42^\circ$ ise $m(\hat{BCA})$ kaç derecedir?



A) 42 B) 48 C) 54 D) 60 E) 68

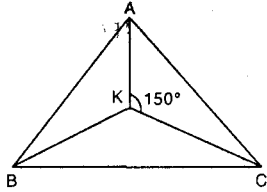
11. Şekilde
 $IAFI = IFEI$
 $IFDI = IEDI$,
 $IADI = IDCI$,
 $IACI = IBCI$
 ve $m(\hat{A}DE) = 20^\circ$ ise



$m(\hat{BAD})$ kaç derecedir?

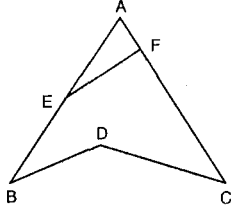
- A) 30 B) 60 C) 65 D) 70 E) 80

12. Şekilde
 $IAKI = IBKI = IKCI$
 ve $m(\hat{AKC}) = 150^\circ$
 ise $m(\hat{ABC})$ kaç derecedir?



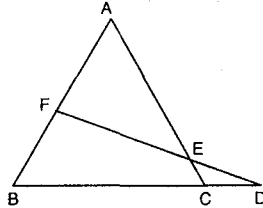
- A) 50 B) 55 C) 60 D) 70 E) 75

13. Şekilde
 $m(\hat{AEF}) = 45^\circ$,
 $m(\hat{ABD}) = 43^\circ$,
 $m(\hat{BDC}) = 140^\circ$ ve
 $m(\hat{ACD}) = 57^\circ$ ise
 $m(\hat{AFE})$ kaç derecedir?



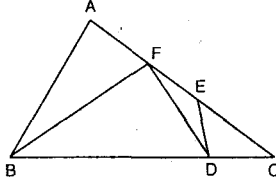
- A) 110 B) 95 C) 85 D) 80 E) 70

14. Şekilde
 $IECI = ICDI$,
 $IAFI = IFEI$,
 $m(\hat{ABC}) = 36^\circ$ ise
 $m(\hat{BAC})$ kaç derecedir?



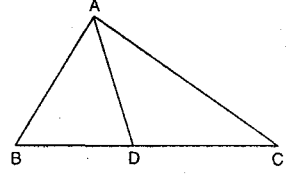
- A) 36 B) 42 C) 48 D) 54 E) 60

15. Şekilde
 $IDEI = IDCI = IEFI$,
 $IBFI = IFCI = IABI$
 ve $m(\hat{ABF}) = 20^\circ$
 ise $m(\hat{FDB})$ kaç derecedir?



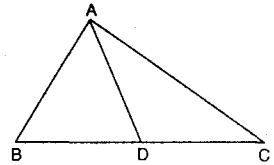
- A) 20 B) 30 C) 40 D) 50 E) 60

16. Şekilde
 $IABI = IBDI$,
 $IACI = IBCI$ ve
 $m(\hat{DAC}) = 27^\circ$ ise
 $m(\hat{ADB})$ kaç derecedir?



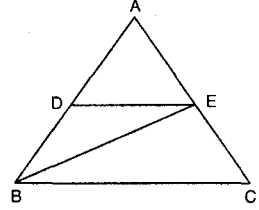
- A) 24 B) 27 C) 41 D) 51 E) 54

17. Şekilde
 $IABI = IDAI = IDCI = IBDI$
 ise $m(\hat{DAC})$ kaç derecedir?



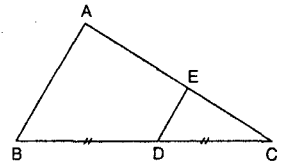
- A) 15 B) 20 C) 25 D) 30 E) 40

18. Şekilde
 $IAEI = IDEI$,
 $IBEI = IBCI$,
 $m(\hat{ABE}) = 15^\circ$ ve
 $m(\hat{EBC}) = 48^\circ$ ise
 $m(\hat{DEB})$ kaç derecedir?



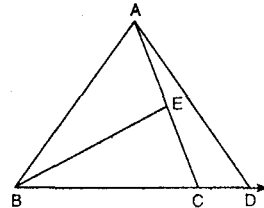
- A) 30 B) 36 C) 42 D) 48 E) 54

19. Şekilde
 $IBDI = IDCI$,
 $IAEI = IECI$ ve
 $m(\hat{ABC}) = 45^\circ$ ise
 $m(\hat{BDE})$ kaç derecedir?



- A) 110 B) 120 C) 125 D) 130 E) 135

20. Şekilde $IBEI = IBCI$,
 $m(\hat{CAD}) = m(\hat{ABE})$ ve
 $m(\hat{ADB}) = 43^\circ$
 ise $m(\hat{BAE})$ kaç derecedir?



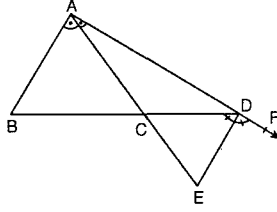
- A) 41 B) 42 C) 43 D) 44 E) 45

ÜÇGENDE AÇILAR

TEST

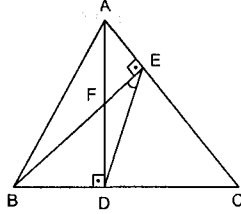
2

1. Şekilde
[AE] ve [DE]
açıortay,
 $|AB| = |AC|$,
 $|AD| = |DE|$ ise
 $m(\hat{ADC})$ kaç dere-
cedir?



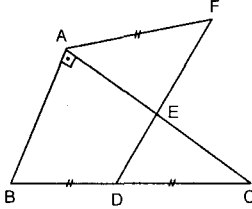
A) 32 B) 34 C) 36 D) 38 E) 40

2. Şekilde $\triangle ABC$ 'de
[AC] $\perp$ [BE],
[AD] $\perp$ [BC]
 $m(\hat{BAD}) = 40^\circ$ ise
 $m(\hat{BED})$ kaç derece-
dir?



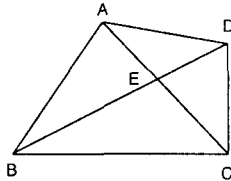
A) 20 B) 25 C) 30 D) 35 E) 40

3. Şekilde
[BA] $\perp$ [AC],
 $|AF| = |BD| = |DC|$,
 $m(\hat{BAF}) = \alpha$,
 $m(\hat{AFD}) = 50^\circ$ ise
 $m(\hat{ACB})$ 'nin α
cinsinden değeri aşağıdakilerden hangisidir?



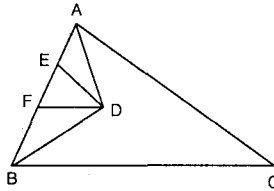
A) $10 + \alpha$ B) $20 + \alpha$ C) $120 - \alpha$
D) $100 - \alpha$ E) $170 - \alpha$

4. Şekilde
 $m(\hat{ABE}) = m(\hat{ECB})$
 $m(\hat{BAC}) = 40^\circ$,
 $m(\hat{BDC}) = 20^\circ$ ise
 $m(\hat{CAD})$ kaç derece-
dir?



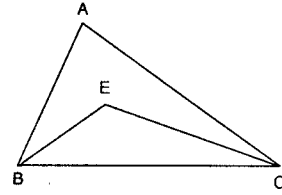
A) 50 B) 60 C) 70 D) 75 E) 80

5. Şekilde
[AD] ve [BD]
açıortay,
[AC] $\parallel$ [ED],
[BC] $\parallel$ [FD] dir.
 $m(\hat{EDF}) = 70^\circ$ ise
 $m(\hat{ACB})$ kaç dere-
cedir?



A) 40 B) 50 C) 55 D) 65 E) 70

6.

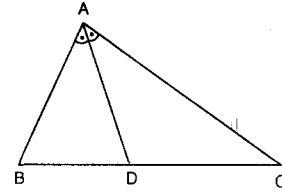


Şekildeki $\triangle ABC$ üçgeninde $m(\hat{BAC}) = 80^\circ$,

$2.m(\hat{ABE}) = 2.m(\hat{ECB}) = 3.m(\hat{BCE}) = 3.m(\hat{ECA})$ ise
 $m(\hat{ACE})$ kaç derecedir?

A) 36 B) 28 C) 24 D) 20 E) 18

7.



Şekilde $m(\hat{BAD}) = m(\hat{DAC})$, $m(\hat{ABC}) - m(\hat{ACB}) = 45^\circ$

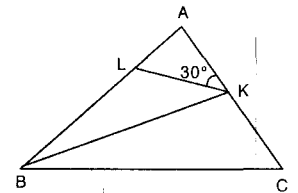
olduğuna göre $\frac{m(\hat{ADC})}{m(\hat{ADB})}$ oranı kaçtır?

A) $\frac{3}{2}$ B) $\frac{5}{3}$ C) 2 D) $\frac{5}{2}$ E) 3

8.

Şekilde
 $|AB| = |BC|$,
 $|KB| = |BL|$ ise

$m(\hat{KBC})$ kaç dere-
cedir?

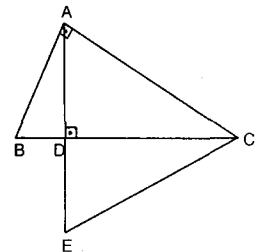


A) 30 B) 40 C) 50 D) 60 E) 70

9.

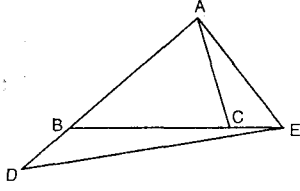
Şekilde
[BA] $\perp$ [AC],
[AE] $\perp$ [BC],
 $|CA| = |CE|$,
 $|BC| = 2|AE|$
olduğuna göre,

$m(\hat{AEC})$ kaç dere-
cedir?



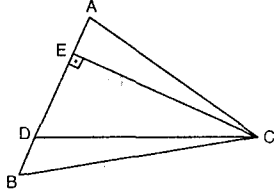
A) 45 B) 60 C) 70 D) 75 E) 80

10. Şekilde,
 $IABI = IACI = IBEI$
ve $IBDI = ICEI$ 'dir.
 $m(\hat{BAC}) = 52^\circ$
ise $m(\hat{BED})$ kaç
derecedir?



A) 6 B) 9 C) 12 D) 18 E) 58

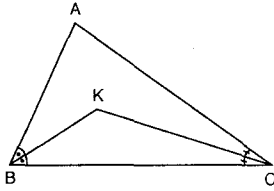
11. Şekilde BEC
ikizkenar dik
üçgen,
 $IACI = IADI$ ve
 $m(\hat{DCE}) = 10^\circ$



ise $m(\hat{BAC})$ kaç
derecedir?

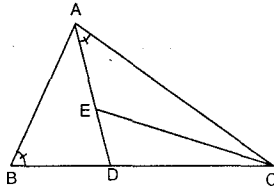
A) 10 B) 15 C) 20 D) 25 E) 30

12. Şekilde
 $\triangle ABC$ 'de $(\hat{BAC})$
geniş açı ise
 $m(\hat{BKC})$ tamsayı
olarak en az
kaçtır?



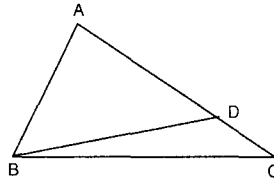
A) 126 B) 130 C) 133 D) 135 E) 136

13. Şekilde
 $ICDI = ICEI$,
 $m(\hat{ABD}) = m(\hat{CAE})$
ve $m(\hat{ACE}) = 35^\circ$
ise $m(\hat{BAD})$ kaç
derecedir?



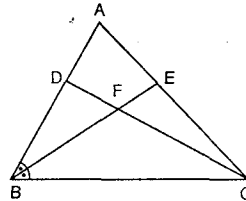
A) 35 B) 30 C) 25 D) 20 E) 15

14. Şekilde
 $IABI = IACI = IBDI$,
 $m(\hat{DBC}) = 18^\circ$ ise
 $m(\hat{BAC})$ kaç dere-
cedir?



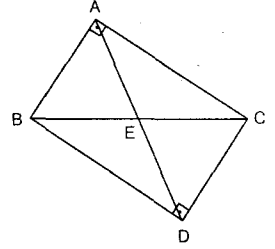
A) 36 B) 54 C) 72 D) 76 E) 80

15. Şekildeki ABC
üçgeninde
 $m(\hat{ACD}) = 20^\circ$,
 $[BE]$ açıortaydır.
 $IBDI = IBEI = IBCI$ ise
 $m(\hat{BAC})$ kaç derece-
dir?



A) 20 B) 25 C) 30 D) 35 E) 40

16. Şekilde BAC ve
BDC dik
üçgendir.



$$m(\hat{ADB}) = 28^\circ,$$

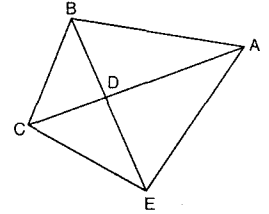
$$m(\hat{EAC}) = 24^\circ$$

olduğuna göre

$m(\hat{AEB})$ kaç de-
recedir?

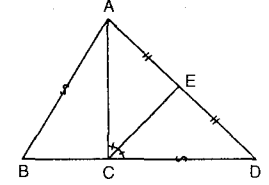
A) 52 B) 48 C) 46 D) 42 E) 40

17. Şekilde
 $IABI = IACI = IAEI$,
 $m(\hat{BAC}) = a$,
 $m(\hat{CEB}) = 30 - a$
ise a kaç derecedir?



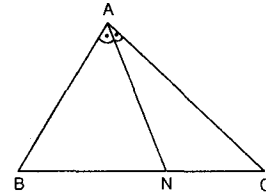
A) 10 B) 20 C) 30 D) 40 E) 50

18. Şekilde
 $m(\hat{ABC}) = 80^\circ$,
 $IABI = ICDI$,
 $IAEI = IEDI$,
 $m(\hat{ACE}) = m(\hat{ECD})$
ise $m(\hat{EDC})$ kaç derecedir?



A) 30 B) 40 C) 50 D) 60 E) 70

- 19.

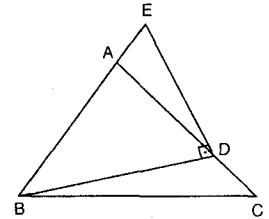


Şekilde $[AN]$ açıortay, $m(\hat{ABN}) - m(\hat{BAN}) = 22^\circ$

$m(\hat{ACB}) = 35^\circ$ ise $m(\hat{BAN})$ kaç derecedir?

A) 39 B) 40 C) 41 D) 42 E) 43

20. Şekilde ABC
eşkenar üçgen,
 $[ED] \perp [BD]$ ve
 $IDCI = IAEI$ ise
 $m(\hat{ADE})$ kaç dere-
cedir?

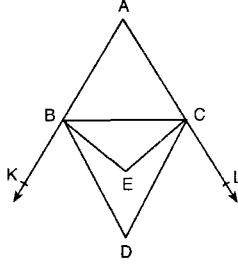


A) 15 B) 20 C) 25 D) 30 E) 36

ÜÇGENDE AÇILAR

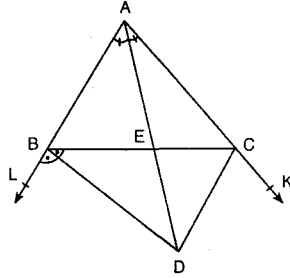
TEST 3

1. Şekilde E, $\triangle BCD$ 'nin iç teğet çemberinin merkezi, $[BD]$; $\widehat{CBK}$ 'nin, $[CD]$; $\widehat{BCL}$ 'nin açıortayı
 $m(\widehat{BDC}) = x$,
 $m(\widehat{BEC}) = 3x$ ise
 $m(\widehat{BAC})$ kaç derecedir?



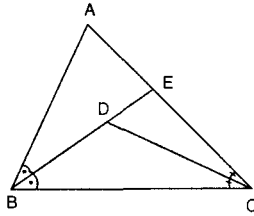
A) 36 B) 54 C) 72 D) 90 E) 108

2. Şekilde $[AD]$; $\widehat{BAC}$ 'nin, $[BD]$; $\widehat{CBL}$ 'nin açıortayı,
 $m(\widehat{BDA}) = 40^\circ$ ise
 $m(\widehat{DCK})$ kaç derecedir?



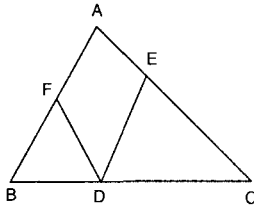
A) 40 B) 50 C) 60 D) 70 E) 80

3. Şekilde $m(\widehat{EDC}) = 50^\circ$ ise $m(\widehat{BAC})$ kaç derecedir?



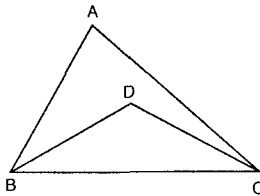
A) 50 B) 70 C) 80 D) 100 E) 110

4. Şekilde $|BF| = |BD|$, $|EC| = |DC|$,
 $m(\widehat{FDE}) = 72^\circ$ ise
 $m(\widehat{BAC})$ kaç derecedir?



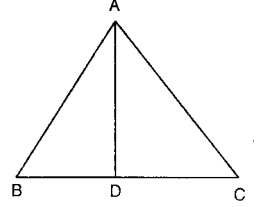
A) 72 B) 54 C) 48 D) 36 E) 18

5. Şekilde $|AB| = |AC|$,
 $m(\widehat{ABD}) = m(\widehat{DCB})$,
 $m(\widehat{BDC}) = 140^\circ$ ise
 $m(\widehat{BAC})$ kaç derecedir?



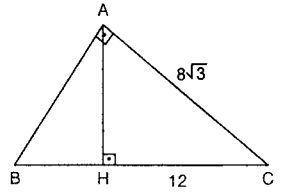
A) 100 B) 90 C) 80 D) 70 E) 60

6. Şekildeki $\triangle ABC$ 'de $[AD]$ açıortay,
 $m(\widehat{BAD}) = 2 \cdot m(\widehat{DBA})$ ve
 $m(\widehat{ACD}) = 55^\circ$ ise
 $m(\widehat{BAD})$ kaç derecedir?



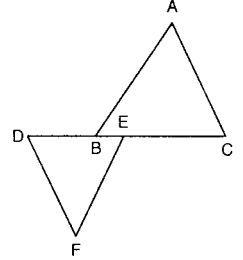
A) 25 B) 30 C) 40 D) 50 E) 60

7. Şekilde $[AB] \perp [AC]$,
 $[AH] \perp [BC]$,
 $|AC| = 8\sqrt{3}$,
 $|HC| = 12$ ise
 $m(\widehat{ABH})$ kaç derecedir?



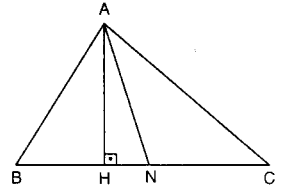
A) 15 B) 30 C) 45 D) 60 E) 75

8. Şekildeki $\triangle ABC$ eşkenar olup $[AC] \parallel [DF]$ 'dir.
 $m(\widehat{FEC}) = 152^\circ$ ise
 $m(\widehat{DFE})$ kaç derecedir?



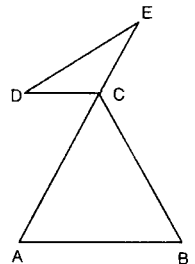
A) 82 B) 92 C) 102 D) 108 E) 112

9. Şekilde $[AH] \perp [BC]$,
 $[AN]$; $\widehat{BAC}$ 'nin açıortayı
 $m(\widehat{ABC}) = x$,
 $m(\widehat{BCA}) = y$,
 $m(\widehat{HAN}) = 5^\circ$ ve $2x + y = 50$ ise $m(\widehat{BAC})$ kaç derecedir?



A) 150 B) 140 C) 130 D) 110 E) 100

10. Şekilde $[DC] \parallel [AB]$,
 $|DC| = |CE|$, $|AC| = |BC|$
A, C, E noktaları doğrusal ve
 $m(\widehat{AED}) = 20^\circ$ ise $m(\widehat{BCE})$ kaç derecedir?

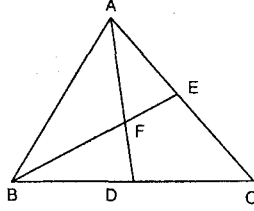


A) 80 B) 70 C) 60 D) 50 E) 40

ÜÇGENDE AÇILAR

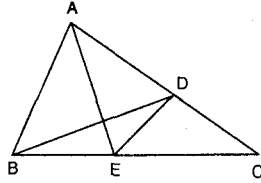
TEST 4

1. Şekilde F, $\triangle ABC$ 'nin iç teğet çemberinin merkezi,
 $m(\widehat{BAF}) = 3x - 20$,
 $m(\widehat{AFB}) = 2x + 43$ ise
x aşağıdakilerden hangisi olabilir?



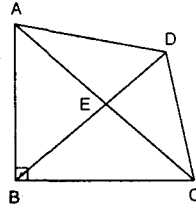
A) 40 B) 39 C) 38 D) 37 E) 35

2. Şekilde
 $IABI = IAEI = IADI$,
 $m(\widehat{BDE}) = 15^\circ$,
 $m(\widehat{ACB}) = 40^\circ$ ise
 $m(\widehat{DEC})$ kaç derecedir?



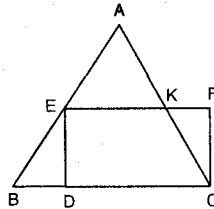
A) 17,5 B) 21 C) 22,5 D) 30 E) 32,5

3. Şekilde $[AB] \perp [BC]$,
 $IABI = IBCI = IADI$,
 $m(\widehat{EAD}) = 15^\circ$ ise
 $m(\widehat{ECD})$ kaç derecedir?



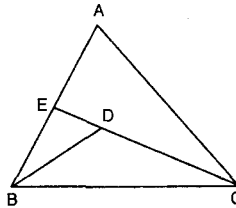
A) 5 B) 15 C) 30 D) 45 E) 50

4. Şekilde CDEF dikdörtgen,
 $IAEI = IAKI$ ve $m(\widehat{ABC}) = 36$
ise **$m(\widehat{KCF})$ kaç derecedir?**



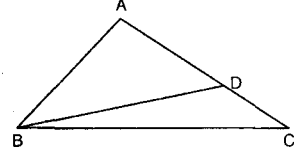
A) 72 B) 54 C) 36 D) 18 E) 9

5. Şekilde $m(\widehat{BAC}) = 76^\circ$,
 $m(\widehat{BDE}) = 52^\circ$,
 $m(\widehat{ACE}) = 36^\circ$ ise
 $m(\widehat{DBE})$ kaç derecedir?



A) 16 B) 28 C) 36 D) 42 E) 54

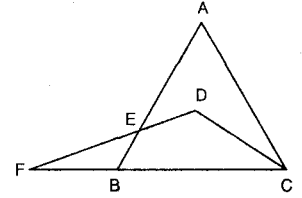
6.



Şekilde $m(\widehat{ABD}) + 20^\circ = m(\widehat{ACB})$, $m(\widehat{BDC}) = 128^\circ$
 $m(\widehat{ABC})$ kaç derecedir?

A) 30 B) 32 C) 34 D) 36 E) 38

7. Şekilde
 $IABI = IACI$,
 $IDCI = IFBI$ ve
 $\triangle ABC$ 'de
ağırlık merkezi,



$m(\widehat{DFB}) = 13^\circ$,

$m(\widehat{DCA}) = 24^\circ$ ise **$m(\widehat{BAC})$ kaç derecedir?**

A) 50 B) 58 C) 60 D) 74 E) 80

8. Bir $\triangle ABC$ 'de iç açılarının ölçüleri 2, 3, 6 sayıları ile ters orantılı ise **en küçük açı kaç derecedir?**

A) 15 B) 30 C) 45 D) 60 E) 90

9. Bir $\triangle ABC$ 'de iç açılarının ölçüleri derece cinsinden verilmiş ve iç açılarının ölçüleri arasında $6.m(\widehat{A}) - 2.m(\widehat{B}) > 2.m(\widehat{C})$ bağıntısı varsa $m(\widehat{A})$ tamsayı olarak en az kaç derecedir?

A) 44 B) 45 C) 46 D) 47 E) 48

10. Şekilde A, E, D, C doğrusal $[AF] \parallel [BD]$

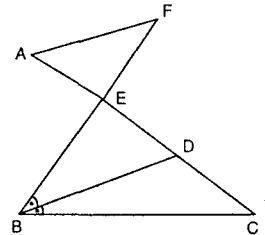
$m(\widehat{EBD}) = m(\widehat{DBC})$,

$m(\widehat{AEB}) = a$

$m(\widehat{ACB}) = b$ ve

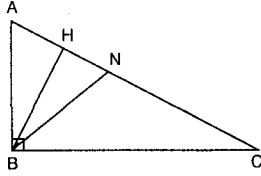
$a - b = 126$ ise

$m(\widehat{BFA})$ kaç derecedir?



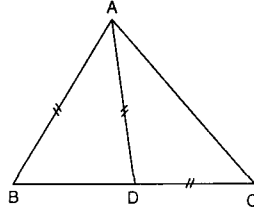
A) 60 B) 63 C) 66 D) 69 E) 72

11. Şekildeki $\triangle ABC$ 'de
[BH] yükseklik,
[BN] açıortay,
 $m(\widehat{HBN}) = 22^\circ$ ise
 $m(\widehat{BCA})$ kaç derecedir?



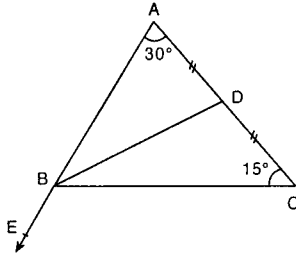
A) 23 B) 25 C) 27 D) 30 E) 37

12. Şekilde
 $IABI = IADI = IDCI$,
 $m(\widehat{BAD}) = a$,
 $m(\widehat{DAC}) = b$ ve
 $a - 7b = 70^\circ$ ise
a kaç derecedir?



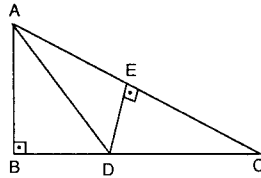
A) 100 B) 110 C) 120 D) 130 E) 140

13. Şekilde
 $IADI = IDCI$,
 $m(\widehat{ACB}) = 15^\circ$,
 $m(\widehat{BAD}) = 30^\circ$ ise
 $m(\widehat{DBC})$ kaç derecedir?



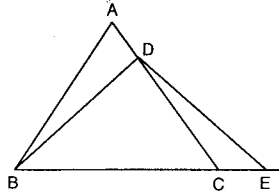
A) 15 B) 30 C) 45 D) 60 E) 75

14. Şekilde $[AB] \perp [BC]$,
 $[AC] \perp [DE]$,
 $IBDI = IDEI$,
 $IAEI = IECI$ ise
 $m(\widehat{ADB})$ kaç derecedir?



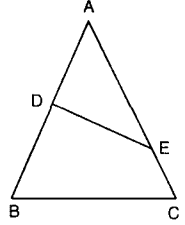
A) 30 B) 40 C) 50 D) 60 E) 70

15. Şekilde ABC
eşkenar üçgen ve
 $IADI = ICEI$ dir.
 $m(\widehat{CED}) = 21^\circ$ ise
 $m(\widehat{ABD})$ kaç derecedir?



A) 21 B) 27 C) 33 D) 37 E) 39

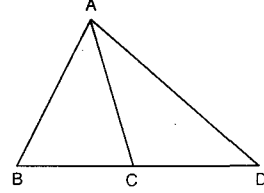
16. Şekilde
 $IABI = IACI$,
D, orta nokta
 $IAEI = 2a + b$, $IECI = b$,
 $IBC I = 2a$ birim uzunlukta ve
 $m(\widehat{ABC}) = 84^\circ$ ise



$m(\widehat{AED})$ kaç derecedir?

A) 42 B) 44 C) 46 D) 48 E) 50

17.

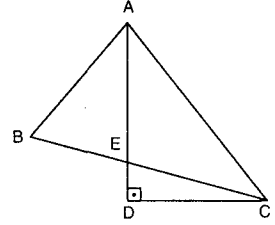


Şekilde $\frac{IBC I}{2} = IADI$ ve $m(\widehat{ADC}) = 2m(\widehat{ABC}) = 40^\circ$

ise **$m(\widehat{ACB})$ kaç derecedir?**

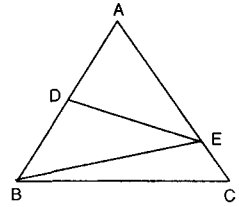
A) 30 B) 40 C) 50 D) 70 E) 100

18. Şekilde
 $m(\widehat{BAD}) = m(\widehat{CAD})$,
 $[AD] \perp [DC]$,
 $m(\widehat{DCE}) = 5^\circ$,
 $m(\widehat{ABE}) = 45^\circ$ ise
 $m(\widehat{ACE})$ kaç derecedir?



A) 35 B) 40 C) 45 D) 50 E) 55

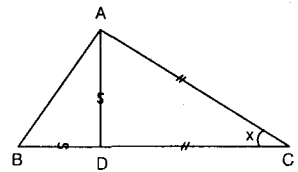
19. Şekildeki $\triangle ABC$ eşkenar,
 $m(\widehat{EBC}) = 15^\circ$,
 $IECI = 1$ br
 $IADI = 2$ br ise



$m(\widehat{DEA})$ kaç derecedir?

A) 15 B) 30 C) 45 D) 60 E) 75

20. Yandaki şekilde
 $IADI = IBDI$,
 $IACI = IDCI$ ve
 $m(\widehat{BAC}) = 126^\circ$
ise **$m(\widehat{BCA}) = x$ kaç derecedir?**



A) 18 B) 16 C) 14 D) 12 E) 10

ÜÇGENDE AÇILAR

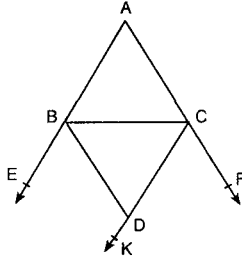
TEST

5

1. Şekilde [BD] ve [CD] dış açıortaylar,

$$m(\hat{B\hat{D}K}) = 120^\circ$$

ise $m(\hat{B\hat{A}C})$ kaç derecedir?

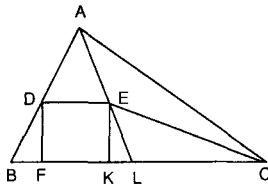


- A) 15 B) 20 C) 30 D) 40 E) 60

2. Şekilde [AL] ve [CE] açıortaylar, DEKF bir kare ve $IEKI = IAEI$,

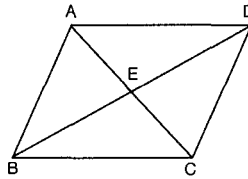
$$m(\hat{ADE}) = 55^\circ$$

ise $m(\hat{ACE})$ kaç derecedir?



- A) 15 B) 12,5 C) 10 D) 7,5 E) 5

3. Şekilde ABCD paralelkenar, ABC eşkenar üçgen ise $m(\hat{B\hat{D}C})$ kaç derecedir?



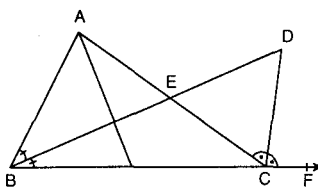
- A) 15 B) 30 C) 45 D) 60 E) 75

4. Şekilde [BD] ve [CD] açıortay,

$$m(\hat{B\hat{A}C}) = 2x,$$

$$m(\hat{DCF}) = x + 40$$

ise $m(\hat{DBC})$ kaç derecedir?

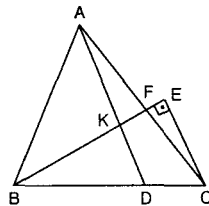


- A) 40 B) 50 C) 60 D) 70 E) 80

5. Şekilde $IABI = IBDI$, $IAKI = IKDI = \frac{IDCI}{2}$

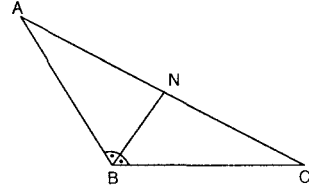
$$\text{ve } m(\hat{ABK}) = 50^\circ$$

$m(\hat{ECF})$ kaç derecedir?



- A) 15 B) 20 C) 30 D) 35 E) 40

6.



Şekilde [BN] açıortay, $m(\hat{B\hat{A}C}) - m(\hat{ACB}) = 64^\circ$ ise $m(\hat{B\hat{N}C})$ kaç derecedir?

- A) 116 B) 120 C) 122 D) 130 E) 132

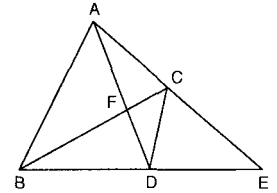
7. Şekilde [AD] açıortay,

$$IABI = IACI,$$

$$ICDI = IDEI$$

$$m(\hat{DCE}) = 50^\circ$$

$m(\hat{DBC})$ kaç derecedir?

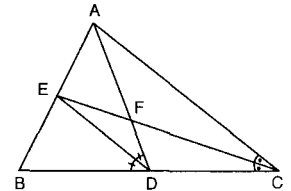


- A) 30 B) 40 C) 50 D) 60 E) 70

8. Şekilde [CE] ve [DE] açıortaylar ve

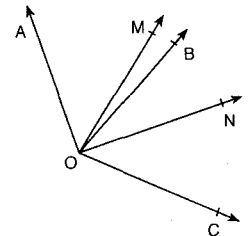
$$m(\hat{CED}) = 15^\circ$$

$m(\hat{BAD})$ kaç derecedir?



- A) 30 B) 45 C) 60 D) 75 E) 90

9. Şekilde [OM; AOC'nin, [ON, BOC'nin açıortayı ise $m(\hat{MON})$ 'nin eşiti için aşağıdakilerden hangisi doğrudur?

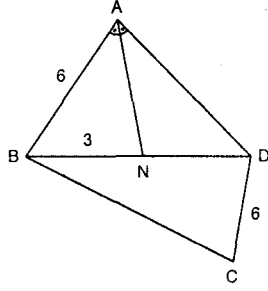


- A) $m(\hat{BOC})$ B) $\frac{m(\hat{AOC})}{2}$ C) $2.m(\hat{BON})$

D) $m(\hat{AOB})$

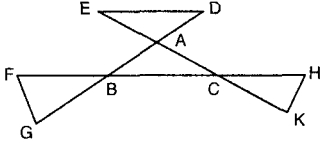
E) $\frac{m(\hat{AOB})}{2}$

10. Şekilde [AN] açıortay,
 Δ
 Çevre (ABD) = 18 br,
 $IDC = IAB = 6$ br,
 $IBNI = 3$ br,
 $m(\hat{BDC}) = 82^\circ$ ise
 $m(\hat{DCB})$ kaç derecedir?



- A) 23 B) 32 C) 36 D) 49 E) 54

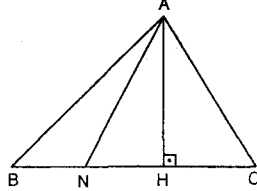
11.



Şekilde $IAEI = IADI$, $IFBI = IBGI$, $ICHI = ICKI$ ise
 $m(\hat{DEA}) + m(\hat{GFB}) + m(\hat{CHK})$ değeri kaçtır?

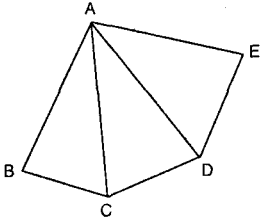
- A) 90° B) 180° C) 270° D) 360° E) 540°

12. Şekilde $[AH] \perp [BC]$,
 $[NA]$; $\hat{BAC}$ 'nin
 açıortayı,
 $INHI = IHCI$ ve
 $m(\hat{BAC}) = 80^\circ$
 ise $m(\hat{ABC})$ kaç derecedir?



- A) 20 B) 25 C) 30 D) 35 E) 40

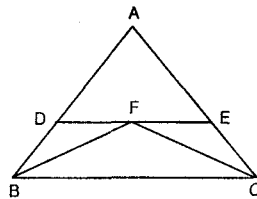
13.



Şekilde $IAB = IAC = IAD = IAE$,
 $m(\hat{CAD}) = 2 \cdot m(\hat{BAC}) = m(\hat{DAE})$,
 $m(\hat{ABC}) + m(\hat{ACD}) = 150^\circ$ ise $m(\hat{BAE})$ kaç derecedir?

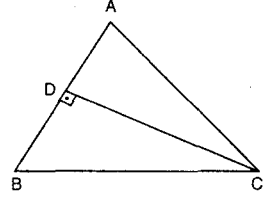
- A) 130 B) 125 C) 120 D) 110 E) 100

14. Şekilde $[DE] \parallel [BC]$,
 $IBDI = IDFI$,
 $IEFI = IECI$ ve
 $m(\hat{BFC}) = 108^\circ$ ise
 $m(\hat{BAC})$ kaç derecedir?



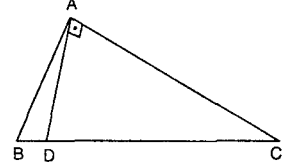
- A) 18 B) 36 C) 40 D) 48 E) 56

15. Şekilde
 $IADI = IDBI$,
 $[CD] \perp [AB]$
 $m(\hat{ACD}) = 32^\circ$ ise
 $m(\hat{ABC})$ kaç derecedir?



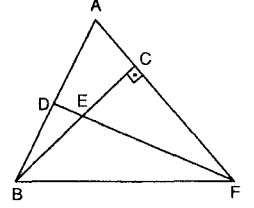
- A) 32 B) 44 C) 48 D) 54 E) 58

16. Şekilde $[AD] \perp [AC]$
 ve $IAB = 5$ cm
 $IDCI = 10$ cm,
 $m(\hat{ABC}) = 24^\circ$ ise
 $m(\hat{ACB})$ kaç derecedir?



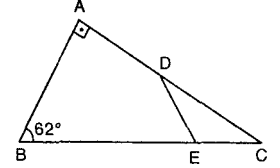
- A) 10 B) 12 C) 16 D) 20 E) 24

17. Şekilde Δ
 $2IADI = 2ICFI = IABI$,
 $[AF] \perp [BC]$ ve
 $m(\hat{DEB}) = 54^\circ$ ise
 $m(\hat{BAF})$ kaç derecedir?



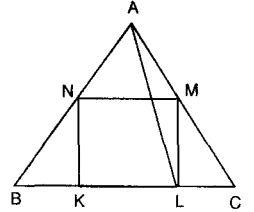
- A) 36 B) 54 C) 64 D) 72 E) 76

18. Şekilde $[AB] \perp [AC]$,
 $IADI = IDCI$,
 $I BEI = 3IECI$
 $m(\hat{ABC}) = 62^\circ$
 ise $m(\hat{BED})$ kaç derecedir?



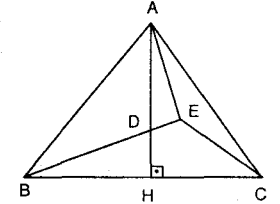
- A) 50 B) 52 C) 54 D) 56 E) 59

19. Şekilde Δ
 ABC eşkenar,
 $KLMN$ kare olduğuna
 göre $m(\hat{LAC})$ kaç derecedir?



- A) 5 B) 10 C) 12 D) 15 E) 20

20. Şekilde, E, Δ
 ABC 'nin iç
 teğet çemberinin merkezi,
 $[AH] \perp [BC]$,
 $m(\hat{BEC}) = 110^\circ$,
 $m(\hat{DAE}) = 10^\circ$
 ise $m(\hat{ADE})$ kaç derecedir?

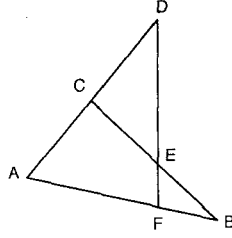


- A) 10 B) 25 C) 30 D) 40 E) 50

ÜÇGENDE AÇILAR

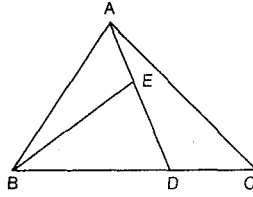
TEST 6

1. Şekilde
 $IAD = IDFI$,
 $IAB = ICBI$
ve $m(\hat{DEB}) = 138^\circ$ ise
 $m(\hat{ABC})$ kaç derecedir?



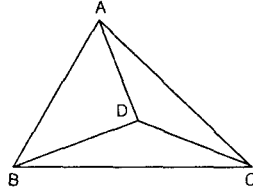
A) 74 B) 68 C) 54 D) 47 E) 32

2. Şekilde
 $IAD = IDC$,
 $IBE = IBD$ ve
 $m(\hat{EBD}) = 52^\circ$ ise
 $m(\hat{DAC})$ kaç derecedir?



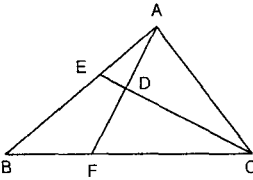
A) 16 B) 20 C) 24 D) 28 E) 32

3. Şekilde
 $IDB = IDC$,
 $IAB = IAD$ ve
 $m(\hat{DCB}) = 5^\circ$,
 $m(\hat{BAD}) = 20^\circ$ ise
 $m(\hat{ADC})$ kaç derecedir?



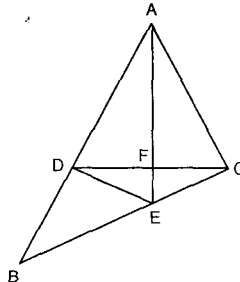
A) 100 B) 110 C) 120 D) 130 E) 140

4. Şekilde
 $IAC = IAE = IFC$
ve $m(\hat{ADC}) = 55^\circ$ ise
 $m(\hat{ABC})$ kaç derecedir?



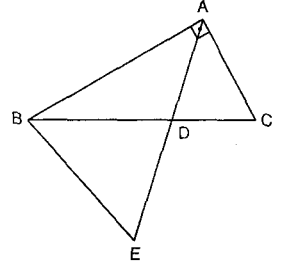
A) 50 B) 55 C) 60 D) 65 E) 70

5. Şekilde,
 $3IAC = 3IAD = 2IBD$,
 $5IEC = 2IBE$ ise
 $m(\hat{AFC})$ kaç derecedir?



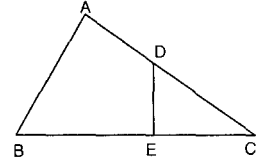
A) 60 B) 70 C) 75 D) 80 E) 90

6. Şekilde $[AB] \perp [AC]$
 $IAB = IBE$,
 $IAD = IDC$,
 $m(\hat{DBE}) = 60^\circ$ ise
 $m(\hat{ACD})$ kaç derecedir?



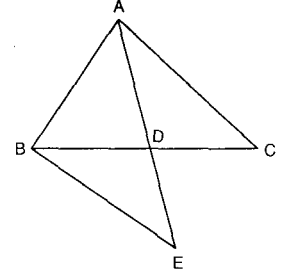
A) 40 B) 45 C) 50 D) 55 E) 60

7. Şekilde $[DE] \perp [BC]$,
 $IBE = IEC$,
 $2IDE = IAB$ ve
 $m(\hat{DCE}) = 15^\circ$ ise
 $m(\hat{ABC})$ kaç derecedir?



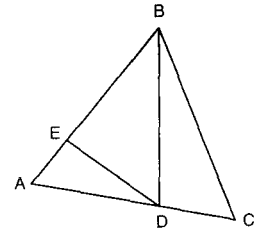
A) 15 B) 30 C) 45 D) 60 E) 75

8. Şekilde $[AB] \perp [AC]$
 $IAD = IDC$,
 $IDB = IDE$ ve
 $m(\hat{BEA}) = 35^\circ$ ise
 $m(\hat{ACB})$ kaç derecedir?



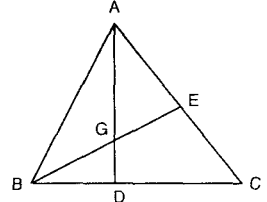
A) 50 B) 40 C) 35 D) 30 E) 25

9. Şekilde $IAB = ICA$,
 $IBE = IBD = IBC$,
 $m(\hat{BAD}) = 36^\circ$ ise
 $m(\hat{ADE})$ kaç derecedir?



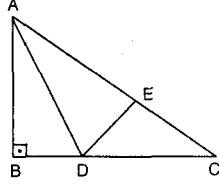
A) 36 B) 38 C) 40 D) 42 E) 44

10. Şekilde G, ABC'nin iç teğet çemberinin merkezi, $IAD = IBE$ ve $m(\hat{BAC}) = 70^\circ$ ise
 $m(\hat{ACB})$ kaç derecedir?



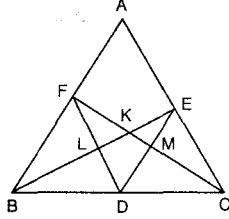
A) 70 B) 60 C) 50 D) 40 E) 30

11. Şekilde $[AB] \perp [BC]$,
 $IA DI = IDC I$,
 $IDE I = IEC I$,
 $m(\widehat{ADE}) = 72^\circ$ ise
 $m(\widehat{BAC})$ kaç derecedir?



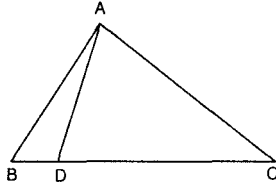
A) 30 B) 36 C) 42 E) 48 E) 54

12. Şekilde K, $\triangle ABC$ 'nin diklik
 merkezi, $m(\widehat{FDE}) = 50^\circ$
 ise $m(\widehat{BAC})$ kaç dere-
 cedir?



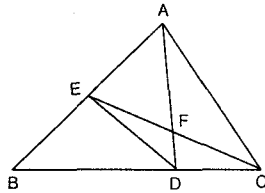
A) 50 B) 53 C) 65 D) 68 E) 71

13. Şekilde
 $IA BI = IDC I = IAC I$
 ve $m(\widehat{ACB}) = 28^\circ$
 ise $m(\widehat{DAB})$ kaç
 derecedir?



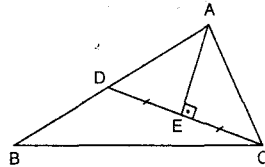
A) 26 B) 24 C) 35 D) 48 E) 52

14. Şekilde $[DE]$ ve
 $[CE]$ açıortaylar,
 $m(\widehat{FAC}) = 32^\circ$,
 $m(\widehat{ADC}) = 108^\circ$ ise
 $m(\widehat{ABC})$ kaç dere-
 cedir?



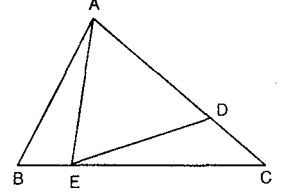
A) 64 B) 54 C) 48 D) 44 E) 34

15. Şekilde $[AE] \perp [DC]$,
 $IDE I = IEC I$ ve
 $m(\widehat{EAC}) = 50^\circ$,
 $m(\widehat{DCB}) = 10^\circ$ ise
 $m(\widehat{ABC})$ kaç dere-
 cedir?



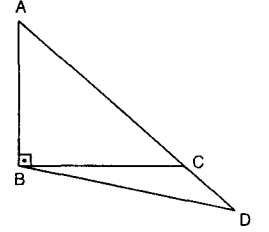
A) 20 B) 30 C) 40 D) 50 E) 60

16. Şekilde $IDE I = IDC I$,
 $m(\widehat{BAE}) = m(\widehat{DEC})$
 $m(\widehat{ABE}) = 40^\circ$,
 $m(\widehat{EAD}) = 20^\circ$ ise
 $m(\widehat{BAE})$ kaç dere-
 cedir?



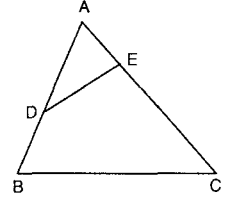
A) 30 B) 45 C) 60 D) 70 E) 75

17. Şekilde
 $IBDI = IAC I$,
 $IA BI = IBC I$
 $[AB] \perp [BC]$,
 $m(\widehat{BAC}) = k \cdot m(\widehat{CBD})$
 ise k kaçtır?



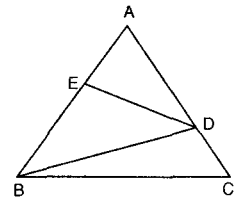
A) 1 B) 2 C) 3 D) 4 E) 5

18. Şekilde $IAEI = 4$ cm,
 $IECI = 6$ cm, $IA DI = 8$ cm,
 $IBAI = 20$ cm uzunlukta,
 $m(\widehat{AED}) = 39^\circ$ ise
 $m(\widehat{ACB})$ kaç derecedir?



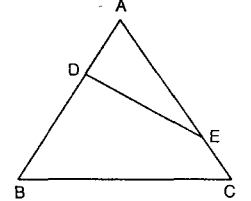
A) 39 B) 52 C) 65 D) 78 E) 91

19. Şekilde $IAEI = IADI$,
 $IEBI = IEDI$,
 $IBDI = IBC I$,
 $m(\widehat{DBC}) = 30^\circ$ ise
 $m(\widehat{ABD})$ kaç derecedir?



A) 60 B) 40 C) 35 D) 30 E) 15

20. Şekilde $3IA DI = 2IDBI$,
 $5IECI = IAC I$,
 $IA CI = IBC I = 10$ cm ve
 $m(\widehat{AED}) = 28^\circ$ ise
 $m(\widehat{BAC})$ kaç derecedir?

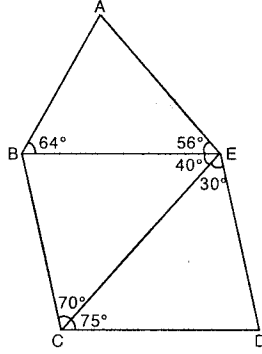


A) 56 B) 62 C) 68 D) 74 E) 80

ÜÇGENDE KENAR-AÇI BAĞINTILARI

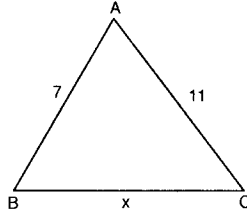
TEST 1

1. Şekildeki ABCDE beşgeninde verilen açı ölçülerine göre en uzun kenar hangisidir?



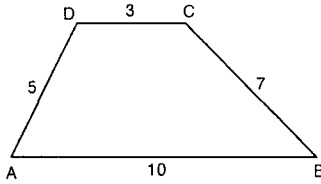
- A) [AE] B) [EC] C) [CD]
D) [AB] E) [EB]

2. ABC üçgeninde, $IBI = 7$ br, $IACI = 11$ br, $IBC I = x$ br ise, x 'in alabileceği en büyük ve en küçük tamsayı değerleri toplamı kaç br dir?



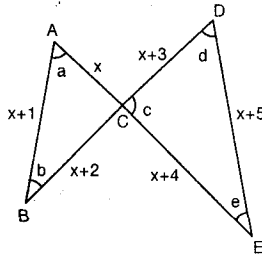
- A) 11 B) 17 C) 18 D) 22 E) 25

3. Şekildeki ABCD dörtgeninde, $IBI = 10$ br, $IBC I = 7$ br, $IDCI = 3$ br, $IADI = 5$ br ise, D noktasının B noktasına uzaklığı kaç br olabilir?



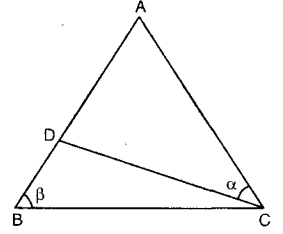
- A) 15 B) 13 C) 12 D) 10 E) 9

4. Şekilde verilenlere göre en büyük açının ölçüsü aşağıdakilerden hangisidir?



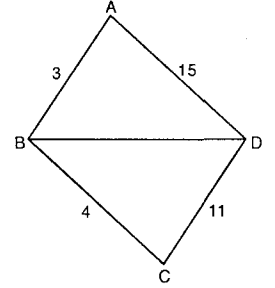
- A) a B) b C) c D) d E) e

5. Şekildeki ABC üçgeninde, $IADI = IACI = IBCI$, $m(\hat{B}) = \beta^\circ$ ve $m(\hat{ACD}) = \alpha^\circ$ ise, α ile β arasındaki bağıntı aşağıdakilerden hangisidir?



- A) $\alpha = 90 + \frac{\beta}{2}$ B) $\alpha = 90 - \frac{\beta}{2}$
C) $\alpha + \beta = 180$ D) $\alpha = \beta$
E) $\alpha = \frac{\beta}{2}$

6. Şekildeki ABCD dörtgeninde verilenlere göre IBDI nin alabileceği tamsayı değerleri kaç tane dir?

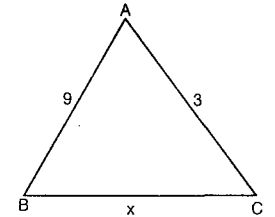


- A) 5 B) 4
C) 3 D) 2
E) 1

7. Aşağıdakilerden hangisi bir üçgen belirtmez?

- A) $a = 5$ br, $b = 6$ br, $c = 8$ br
B) $a = 3$ br, $b = 6$ br, $c = 8$ br
C) $a = 2$ br, $b = 10$ br, $c = 11$ br
D) $a = 7$ br, $b = 24$ br, $c = 25$ br
E) $a = 8$ br, $b = 9$ br, $c = 17$ br

8. Şekildeki ABC üçgeninde kenar uzunlukları birbirinden farklı tamsayılar ise x 'in alabileceği değerler toplamı kaçtır?



- A) 28 B) 30 C) 32 D) 36 E) 45

9. Bir ABC üçgeninin kenar uzunlukları a, b, c tamsayılarıdır. $c^2 - b^2 = 16$ koşulunu sağlayan kaç tane ABC üçgeni çizilebilir?

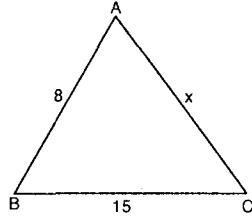
- A) 1 B) 3 C) 5 D) 7 E) 11

10. ABC üçgeninde $x, y, z \in \mathbb{Z}^+$, $|BC| = x$ br, $|AB| = (x + y)$ br, $|AC| = (x + y + z)$ br ve $m(\hat{A}) < 50^\circ$ ise, $m(\hat{B})$ nin alabileceği en küçük tamsayı değeri kaç derecedir?

A) 51 B) 52 C) 60 D) 65 E) 66

11. Şekildeki ABC üçgeninde,

$m(\hat{B}) < 90^\circ$ ise,
 $|AC| = x$ in alabileceği tamsayı değerleri kaç tanedir?

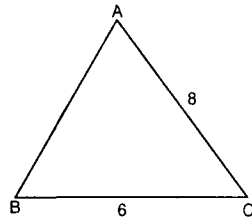


A) 3 B) 5 C) 6 D) 7 E) 9

12. Şekildeki ABC üçgeninde,

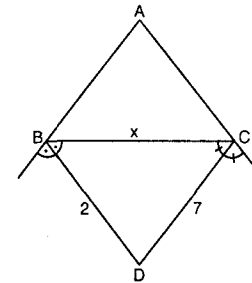
$|BC| = 6$ br,
 $|AC| = 8$ br ve

$m(\hat{ACB}) > 90^\circ$ ise,
 $|AB|$ nin alabileceği tamsayı değerleri kaç tanedir?



A) 3 B) 7 C) 11 D) 12 E) 14

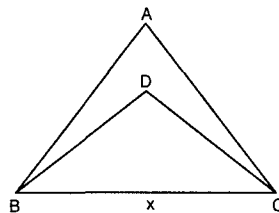
13. Şekildeki ABC üçgeninde $[BD]$ ve $[CD]$ dışağırtay, $|BD| = 2$ br ve $|CD| = 7$ br ise, x 'in alabileceği tamsayı değerlerinin toplamı kaç br dir?



A) 9 B) 13 C) 14 D) 16 E) 17

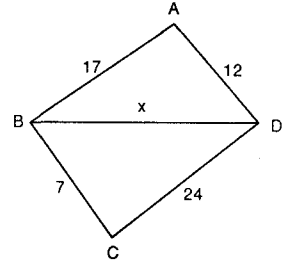
14. Şekildeki ABC üçgeninde D, içağırtayların kesim noktasıdır.

$|BD| = 4$ br,
 $|DC| = 5$ br ise,
 $|BC| = x$ aşağıdakilerden hangisi olabilir?



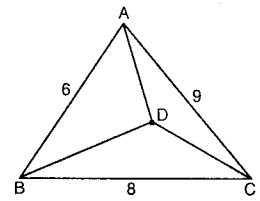
A) 4 B) 5 C) 6 D) 7 E) 9

15. Şekildeki ABCD dörtgeninde verilenlere göre,
 $m(\hat{BCD}) > 90^\circ$ ise,
 x aşağıdakilerden hangisi olabilir?



A) 7 B) 12 C) 17 D) 24 E) 26

16. Şekilde verilenlere göre D, ABC üçgeni içerisinde isteksel bir nokta ise,
 $|DA| + |DB| + |DC|$ toplamının en büyük tamsayı değeri kaçtır?

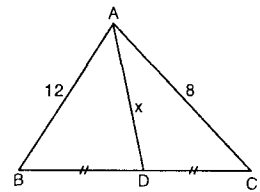


A) 22 B) 23 C) 25 D) 26 E) 27

17. Çevresi 25 br olan ABC ikizkenar üçgeninin eşit kenarlarından biri kaç farklı tamsayı değeri alabilir?

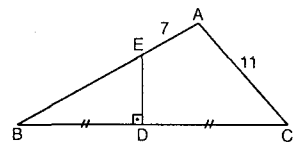
A) 10 B) 9 C) 8 D) 7 E) 6

18. Şekildeki ABC üçgeninde,
 $|AB| = 12$ br,
 $|AC| = 8$ br ve
 $|BD| = |DC|$ ise,
 $|AD| = x$ kaç farklı tamsayı değeri alabilir?



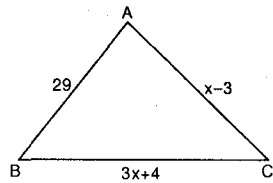
A) 10 B) 9 C) 8 D) 7 E) 6

19. Şekildeki ABC üçgeninde,
 $|AC| = 11$ br,
 $|AE| = 7$ br,
 $|EB| \in \mathbb{Z}$ ve
 $|BD| = |DC|$ ise, $|EB|$ en çok kaç br'dir?



A) 12 B) 15 C) 17 D) 18 E) 19

20. ABC üçgeninde,
 $|AB| = 29$ br,
 $|BC| = 3x + 4$ br,
 $|AC| = x - 3$ br ve
ABC üçgeninin çevresi bir tamsayı olduğuna göre, en çok kaç br dir?

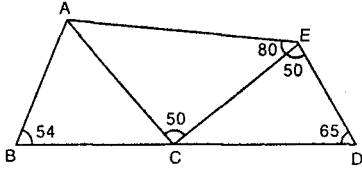


A) 74 B) 73 C) 72 D) 71 E) 70

ÜÇGENDE KENAR-AÇI BAĞINTILARI

TEST 2

1.

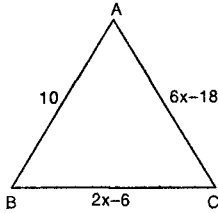


Şekildeki BDEA dörtgenini oluşturan ABC, ACE, CED üçgenlerinin kenar uzunlukları arasında sıralama yapılırsa, en uzun ve en kısa kenarın oluşturduğu ikili aşağıdakilerden hangisi olur?

- A) $([AB], [ED])$ B) $([BD], [AE])$
 C) $([AE], [CD])$ D) $([AB], [CD])$
 E) $([AC], [AE])$

2.

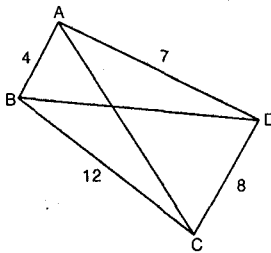
Şekildeki ABC üçgeninde,
 $IACI = 6x - 18$ br,
 $IABI = 10$ br ve
 $IBCI = 2x - 6$ br ise,
 ABC üçgeninin çevresinin alabileceği en büyük tamsayı değeri kaç br dir?



- A) 20 B) 21 C) 26 D) 29 E) 30

3.

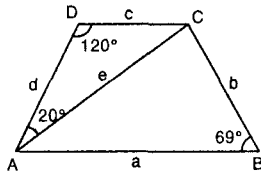
Şekilde verilenlere göre,
 $IACI + IBDI$ toplamının alabileceği en küçük tamsayı değeri kaçtır?



- A) 12 B) 13 C) 15 D) 17 E) 18

4.

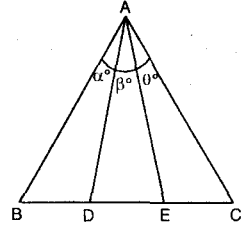
Şekildeki ABCD dörtgeninde verilenlere göre,
 $[DC] \parallel [AB]$ ise,
 aşağıdaki uzunluklardan hangisi en büyüktür?



- A) a B) b C) c D) d E) e

5.

ABC üçgeninde,
 $IAEI = IBEI$,
 $IACI = IDC I$ dir.
 $m(\hat{BAD}) = \alpha^\circ$,
 $m(\hat{DAE}) = \beta^\circ$,
 $m(\hat{EAC}) = \theta^\circ$ ise,

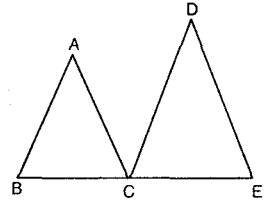


aşağıdakilerden hangisi daima doğru olur?

- A) $\beta = 2\theta$ B) $\theta = \alpha$ C) $\beta = \alpha$
 D) $\beta = \theta$ E) $\theta = 2\alpha$

6.

Şekilde B, C, E noktaları doğrusal,
 $IABI = 6$ br,
 $IDEI = 9$ br ve
 $IBEI = 15$ br ise,
 $IACI + ICDI$ nin alabileceği en büyük tamsayı değeri kaç br dir?



- A) 28 B) 29 C) 30 D) 31 E) 32

7.

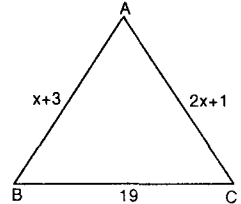
Aşağıda dış açılarının ölçüleri x, y, z olarak verilen üçgenlerden hangisi ya da hangileri çizilemez?

- I. $x = 70^\circ$ $y = 150^\circ$ $z = 140^\circ$
 II. $x = 80^\circ$ $y = 100^\circ$ $z = 180^\circ$
 III. $x = 85^\circ$ $y = 105^\circ$ $z = 170^\circ$
 IV. $x = 70^\circ$ $y = 110^\circ$ $z = 170^\circ$

- A) Yalnız I B) II ve IV C) I, II ve III
 D) I ve IV E) Yalnız IV

8.

Şekildeki ABC üçgeninde, $x \in \mathbb{Z}$,
 $IABI = x + 3$ br,
 $IACI = 2x + 1$ br ve
 $IBCI = 19$ br ise,
 kaç farklı ABC üçgeni çizilebilir?



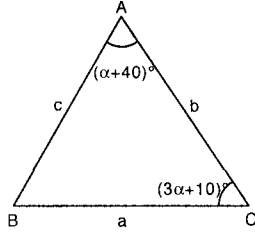
- A) 6 B) 12 C) 15 D) 18 E) 20

9.

Bir ABC üçgeninin kenar uzunlukları birbirinden farklı a, b, c tamsayılarıdır.
 $a^2 - b^2 = 20$ koşulunu sağlayan kaç tane üçgen çizilebilir?

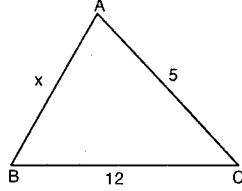
- A) 1 B) 5 C) 7 D) 9 E) 11

10. Şekildeki ABC üçgeninde $c > a > b$ ise, B açısının ölçüsü aşağıdakilerden hangisi olabilir?



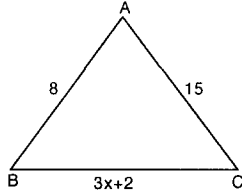
A) 70 B) 69 C) 60 D) 58 E) 55

11. Şekildeki ABC üçgeninde $m(\hat{C}) < 90^\circ$ ise, kenar uzunlukları birbirinden farklı tamsayılar olan kaç farklı üçgen çizilebilir?



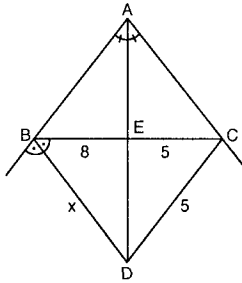
A) 3 B) 4 C) 5 D) 6 E) 7

12. Şekildeki ABC üçgeninde $m(\hat{A}) > 90^\circ$ ise, x aşağıdakilerden hangisi olabilir?



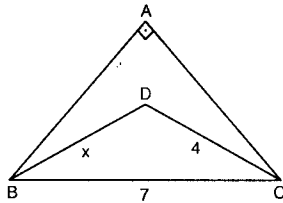
A) $\frac{7}{2}$ B) 4 C) $\frac{9}{2}$ D) 5 E) $\frac{11}{2}$

13. Şekildeki ABC üçgeninde [AD] ve [BD] açıortaylardır. $IBEI = 8$ br, $IECI = ICDI = 5$ br ise, x'in alabileceği en küçük tamsayı değeri kaç br dir?



A) 13 B) 12 C) 9 D) 8 E) 7

14. Şekildeki ABC üçgeninde $m(\hat{A}) = 90^\circ$, $IDCI = 4$ br, $IBCI = 7$ br ise, $IBDI = x$ in alabileceği tamsayı değerlerinin toplamı kaç br dir?



A) 4 B) 7 C) 8 D) 9 E) 11

15. Şekilde,

$$m(\hat{A}) > 90^\circ,$$

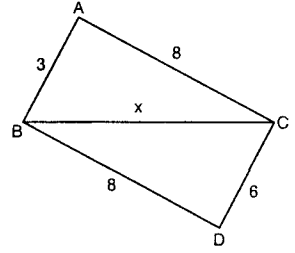
$$m(\hat{D}) < 90^\circ,$$

$$|AB| = 3 \text{ br},$$

$$|CD| = 4 \text{ br ve}$$

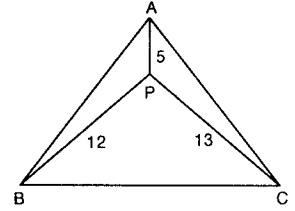
$$|BD| = |AC| = 8 \text{ br},$$

$|BC| = x$ br ise, x'in alabileceği tamsayı değerlerinin toplamı kaç br dir?



A) 45 B) 35 C) 24 D) 21 E) 9

16. Şekilde verilenlere göre ABC üçgeninin çevresinin alabileceği tamsayı değerleri hangi aralıktadır?

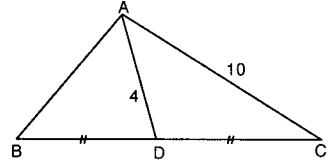


A) (30, 60) B) (25, 50) C) (22, 44)
D) (18, 30) E) (17, 30)

17. Herhangi bir dış açısının ölçüsü 120° olmayan, çevresi 33 br olan ABC ikizkenar üçgeninin eşit kenarlarından biri kaç farklı tamsayı değeri alabilir?

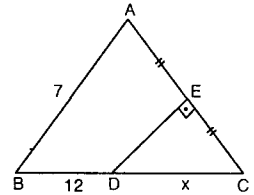
A) 6 B) 7 C) 8 D) 9 E) 10

18. Şekildeki ABC üçgeninde, $|AD| = 4$ br, $|AC| = 10$ br ve $|BD| = |DC|$ ise, $|AB|$ 'nin alabileceği en büyük ve en küçük tamsayı değerlerinin toplamı kaç br dir?



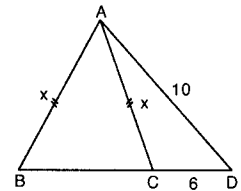
A) 14 B) 15 C) 17 D) 18 E) 20

19. Şekildeki ABC üçgeninde, $[DE] \perp [AC]$, $|AE| = |EC|$, $|AB| = 12$ br ve $|BD| = 7$ br ise, $|DC| = x$ için aşağıdakilerden hangisi doğrudur?



A) $x \in [7, 12]$ B) $x \in (7, 12)$
C) $x \in (5, 19)$ D) $x \in [5, 19]$
E) $x \in [5, 12]$

20. Şekildeki üçgende, $|AB| = |AC| = x$ br, $|CD| = 6$ br ve $|AD| = 10$ br ise, x aşağıdakilerden hangisi olamaz?



A) 5,5 B) 6 C) 6,5 D) 7,5 E) 8,5

ÜÇGENDE KENAR-AÇI BAĞINTILARI

TEST

3

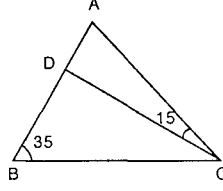
1. Şekildeki ABC üçgeninde,
[AB] $\perp$ [AC],

$$m(\widehat{ACD}) = 15^\circ,$$

$$m(\widehat{ABC}) = 35^\circ \text{ ise,}$$

aşağıdaki sıralamalardan hangisi yanlıştır?

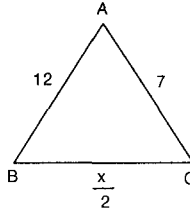
- A) $IBC I > IDC I > IAC I$
B) $IDB I > IDC I > IAC I$
C) $IBC I > IAC I > IAB I$
D) $IDB I > IAC I > IAD I$
E) $IBC I > IDB I > IDC I$



2. Şekildeki ABC üçgeninde,
IAB I = 12 br,
IAC I = 7 br,

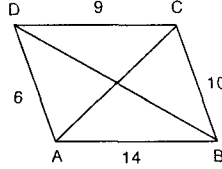
$$IBC I = \frac{x}{2} \text{ br ve}$$

Δ
 $\widehat{C(ABC)}$ bir tamsayıdır.
x'in alabileceği kaç değer vardır?



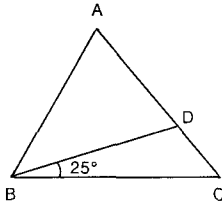
- A) 13 B) 18 C) 21 D) 27 E) 29

3. Şekildeki ABCD dörtgeninde,
IAC I $\in$ Z ve
IDB I $\in$ Z ise,
IAC I + IDB I toplamının alabileceği en küçük tamsayı değeri kaçtır?



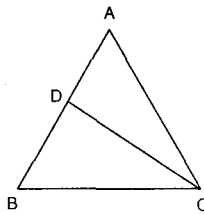
- A) 14 B) 15 C) 19 D) 20 E) 24

4. Şekildeki ABC üçgeninde,
IAB I = IAD I ve
 $m(\widehat{DBC}) = 25^\circ$ ise,
 $m(\widehat{ABC}) - m(\widehat{ACB}) = x$ kaç derecedir?



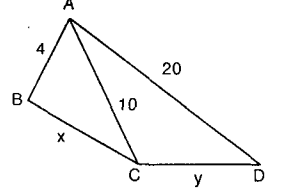
- A) 15 B) 20 C) 35 D) 50 E) 55

5. Şekildeki ABC üçgeninde,
IAB I = IAC I,
 $m(\widehat{DAC}) = m(\widehat{DCB})$,
IAC I = 9 br,
IBC I = 7 br ise,
 Δ
 $\widehat{C(ADC)}$ 'inin alabileceği en küçük tamsayı değeri kaç br dir?



- A) 15 B) 16 C) 17 D) 18 E) 19

6. ABCD dörtgeninde
 $y = 3x$ ise y'nin en küçük tamsayı değeri kaçtır?



- A) 20 B) 19 C) 18 D) 17 E) 16

7. Aşağıdakilerden hangisi bir üçgen belirtir?

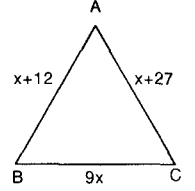
- A) $h_a = 7$ br, $V_a = 6$ br, $a = 5$ br
B) $b = 5$ br, $h_b = 4$ br, $V_b = 3$ br
C) $a = 8$ br, $h_b = 9$ br, $c = 10$ br
D) $c = 8$ br, $a = 6$ br, $V_c = 3$ br
E) $a = 5$ br, $h_a = 4$ br, $n_A = 3$ br

8. Şekildeki ABC üçgeninde

$$IAB I = x + 12 \text{ br,}$$

$$IAC I = x + 27 \text{ br ve}$$

IDC I = $9x$ br ise, x'in alabileceği kaç farklı tamsayı değeri vardır?



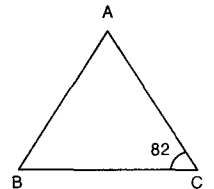
- A) 1 B) 2 C) 3 D) 4 E) 5

9. Bir ABC üçgenin kenar uzunlukları a, b, c tamsayılarıdır.

$a^2 = b^2 + 32$ koşulunu sağlayan ABC üçgeninin çevresi en az kaçtır?

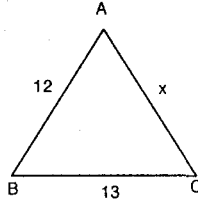
- A) 13 B) 15 C) 17 D) 19 E) 20

10. $m(\widehat{ACB}) = 82^\circ$,
IBC I > IAC I ise, $m(\widehat{B})$ nin en büyük tamsayı değeri kaç derecedir?



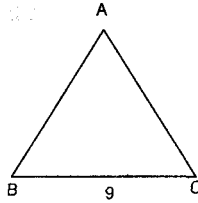
- A) 81 B) 72 C) 59 D) 49 E) 48

11. Şekildeki ABC üçgeninde,
 $ABI = 12$ br,
 $BCI = 13$ br,
 $ACI = x$ br ve
 $m(\hat{A}) < 90^\circ$ ise, x 'in alabileceği en büyük ve en küçük tamsayı değerinin toplamı kaç br dir?



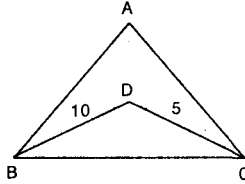
A) 19 B) 26 C) 29 D) 30 E) 31

12. Şekildeki ABC üçgeninde,
 $ABI = 12$ br,
 $BCI = 9$ br ve
 $m(\hat{ABC}) > 90^\circ$ ise,
 $\hat{A}$
 $\hat{C}(ABC)$ kaç br olabilir?



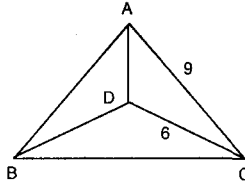
A) 42 B) 39 C) 36 D) 30 E) 24

13. Şekildeki ABC üçgeninde,
 $m(\hat{A}) = 75^\circ$,
 $m(\hat{ABD}) = (15 - 2a)^\circ$,
 $m(\hat{ACD}) = a^\circ$ ve
 $BDI = 10$ br,
 $IDC = 5$ br ise, BCI 'nin alabileceği en büyük tamsayı değeri kaç br dir?



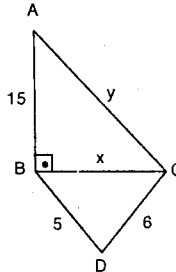
A) 14 B) 13 C) 12 D) 11 E) 10

14. Şekildeki ABC üçgeninde,
 $m(\hat{DBC}) = m(\hat{DBA})$,
 $m(\hat{ACD}) = m(\hat{DCB})$ dir.
 $ACI = 9$ br ve
 $IDC = 6$ br ise,
 ADI 'nin alabileceği tamsayı değerlerinin toplamı kaç br dir?



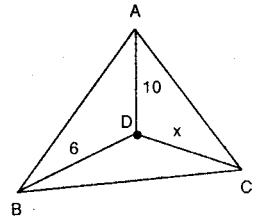
A) 11 B) 14 C) 15 D) 18 E) 21

15. Şekilde,
 $[AB] \perp [BC]$ ve
 $m(\hat{BDC}) > 90^\circ$ dir.
 x bir tamsayı ise $x + y$ toplamı en az kaçtır?



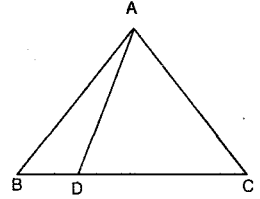
A) 16 B) 18 C) 23 D) 25 E) 32

16. Şekildeki ABC üçgeninde,
 $ADI = 10$ br,
 $BDI = 6$ br,
 $IDC = x$ br ve
 $\hat{C}(ABC) = 24$ br ise,
 x 'in alabileceği kaç farklı tamsayı değeri vardır?



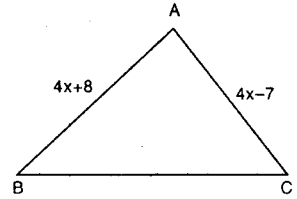
A) 7 B) 6 C) 5 D) 4 E) 3

17. Şekildeki ABC üçgeninde;
 $ACI = 10$ br,
 $\hat{C}(ABD) = 24$ br ise,
 $IDC = x$ 'in en büyük tamsayı değeri kaç br dir?



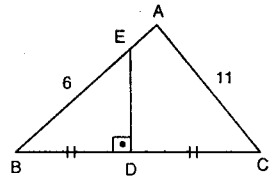
A) 18 B) 19 C) 20 D) 21 E) 22

18. Şekildeki ABC üçgeninde,
 $ABI = (4x + 8)$ br
 $ACI = (4x - 7)$ br
ise, $[BC]$ kenarına alt kenarortayın uzunluğunun alabileceği en küçük tamsayı değeri kaç br'dir?



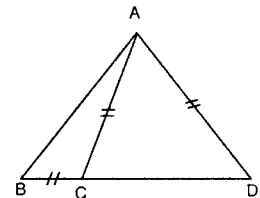
A) 3 B) 4 C) 5 D) 6 E) 8

19. Şekildeki ABC üçgeninde,
 $IEB = 6$ br,
 $ACI = 11$ br,
 $IBDI = IDC$ ve
 $[ED] \perp [BC]$ ise,
 IAE 'nin alabileceği en küçük tamsayı değeri kaç br dir?



A) 7 B) 6 C) 5 D) 4 E) 3

20. Şekildeki ABC üçgeninde,
 $IBC = IAC = IAD = 8$ br ise,
 ABI aşağıdakilerden hangisi olamaz?

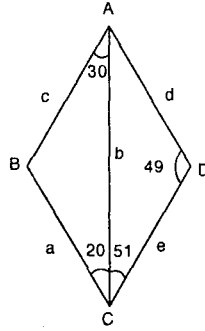


A) 15 B) 14 C) 13 D) 12 E) 11

ÜÇGENDE KENAR-AÇI BAĞINTILAR

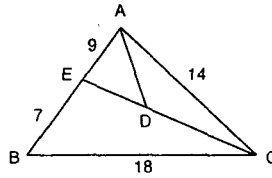
TEST 4

1. Şekildeki ABCD dörtgeninde
 $|AB| = c$ br,
 $|BC| = a$ br,
 $|AC| = b$ br,
 $|DC| = e$ br ve
 $|AD| = d$ br
 ise aşağıdakilerden hangisi doğrudur?



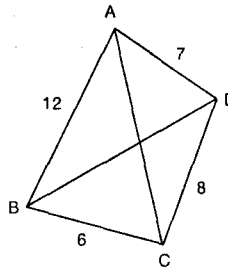
- A) $b > e > d > a > c$
 B) $c > a > d > e > b$
 C) $c > a > b > d > e$
 D) $e > d > b > a > c$
 E) $b > c > a > e > d$

2. Şekildeki ABC üçgeninde verilen kenar uzunluklarına göre [AD], AEC üçgeninde kenarortay ise IDC'nin alabileceği en büyük tamsayı değeri kaçtır?



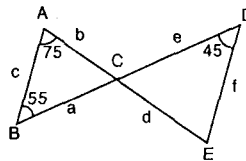
- A) 7 B) 9 C) 11 D) 19 E) 22

3. Şekildeki ABCD dörtgeninde $|AC| \in Z$, $|BD| \in Z$ ve $|AC| = |BD|$ ise $|AC| + |BD|$ toplamının alabileceği kaç farklı değer vardır?



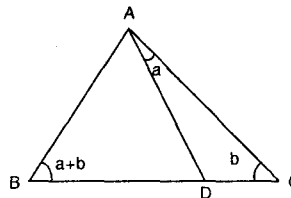
- A) 4 B) 5 C) 6 D) 7 E) 8

4. Şekilde verilenlere göre aşağıdaki sıralamalardan hangisi kesinlikle doğrudur?



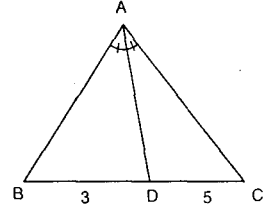
- A) $d < f < a$ B) $c < b < e$ C) $a < b < c$
 D) $c < d < e$ E) $d < f < e$

5. Şekildeki ABC üçgeninde $|DC| > |AD|$ ise b'nin alabileceği en büyük tamsayı değeri için a kaç olabilir?



- A) 51 B) 50 C) 46 D) 45 E) 44

6. ABC üçgeninde [AD] açıortay,
 $|BD| = 3$ br,
 $|DC| = 5$ br ise IACI'nin alabileceği en büyük tamsayı değeri kaç br'dir?



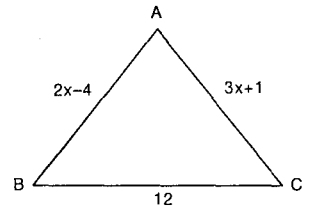
- A) 19 B) 18 C) 15 D) 12 E) 11

7. Aşağıda kenar uzunlukları ve açıları verilen üçgenlerden hangisi veya hangileri çizilebilir?

- I. $a = 7$ br, $b = 6$ br, $c = 13$ br
 II. $a = 2$ br, $b = 7$ br, $c = 10$ br
 III. $a = 6$ br, $b = 8$ br, $m(\hat{C}) = 63^\circ$
 IV. $a = 7$ br, $b = 9$ br, $m(\hat{A}) = 135^\circ$

- A) I ve II B) Yalnız III C) I, II ve III
 D) Yalnız IV E) II ve IV

8. Şekildeki ABC üçgeninde x kaç farklı tamsayı değeri alabilir?

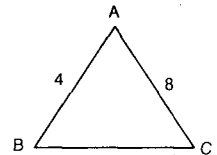


- A) 3 B) 4 C) 5 D) 6 E) 7

9. Kenar uzunlukları x, y, z tamsayıları olan ve $x^2 - y^2 = 48$ koşulunu sağlayan bir tek üçgen çizilebiliyorsa z kaçtır?

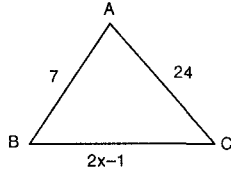
- A) 3 B) 4 C) 5 D) 6 E) 7

10. Şekildeki ABC üçgeninde $|AB| = 4$ br, $|AC| = 8$ br ve $m(\hat{BAC}) < 60^\circ$ ise IBCI'nin alabileceği tamsayı değerleri toplamı kaç br'dir?



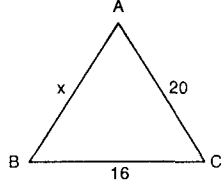
- A) 11 B) 12 C) 13 D) 14 E) 15

11. Şekildeki ABC üçgeninde $m(\hat{A}) < 90^\circ$ ise x 'in alabileceği tamsayı değerleri kaç tanedir?



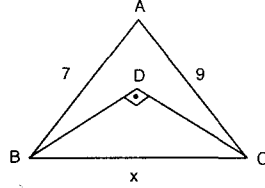
A) 1 B) 3 C) 4 D) 5 E) 7

12. Şekildeki ABC üçgeninde $m(\hat{A}) > 90^\circ$ ise x 'in alabileceği en büyük ve en küçük tamsayı değerinin toplamı kaçtır?



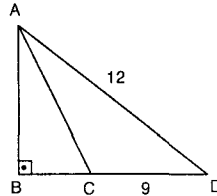
A) 5 B) 11 C) 16 D) 20 E) 38

13. Şekildeki ABC üçgeninde $ABI = 7$ br, $ACI = 9$ br ve $m(\hat{BDC}) = 90^\circ$ ise $IBC = x$ 'in alabileceği en büyük tamsayı değeri kaç br'dir?



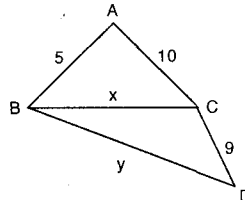
A) 5 B) 7 C) 9 D) 11 E) 15

14. Şekildeki ABD dik üçgeninde $ADI = 12$ br ve $ICD = 9$ br ise ACI 'nin alabileceği tamsayı değerlerinin toplamı kaç br'dir?



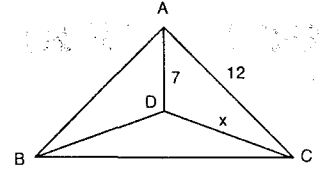
A) 15 B) 18 C) 22 D) 36 E) 48

15. Şekildeki dörtgende verilenlere göre; $x, y \in \mathbb{Z}$, $m(\hat{A}) < 90^\circ$ ve $m(\hat{BCD}) > 90^\circ$ dir. x 'in en büyük değeri için y en az kaçtır?



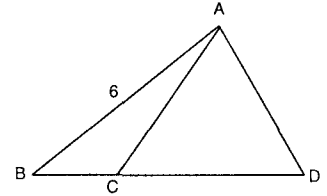
A) 18 B) 17 C) 16 D) 15 E) 14

16. Şekilde $[DC] \perp [DB]$, $ADI = 7$ br, $ACI = 12$ br ise $IDCI = x$ 'in kaç farklı tamsayı değeri vardır?



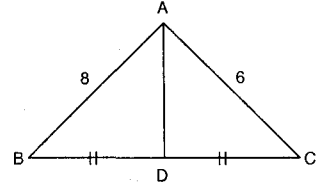
A) 4 B) 5 C) 6 D) 7 E) 8

17. Şekildeki ABD üçgeninde; $\Delta ACD = 24$ br, $ABI = 6$ br $ACI \in \mathbb{Z}$, $IBC \in \mathbb{Z}$ ise ΔABC en çok kaç br olabilir?



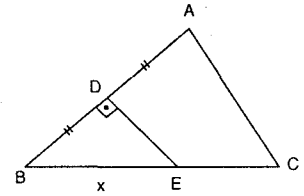
A) 20 B) 24 C) 28 D) 33 E) 40

18. Şekildeki ABC üçgeninden $ABI = 8$ br, $ACI = 6$ br ve $m(\hat{BAC}) > 90^\circ$ ise AD 'nin alabileceği tamsayı değerlerinin toplamı kaç br'dir?



A) 4 B) 5 C) 6 D) 8 E) 9

19. Şekildeki ABC üçgeninde $ADI = IDBI$, $ACI = 9$ br, $ICEI = 5$ br ve $m(\hat{C}) < 90^\circ$ ise $IBEI = x$ 'in en büyük tamsayı değeri kaç br'dir?



A) 5 B) 7 C) 8 D) 9 E) 10

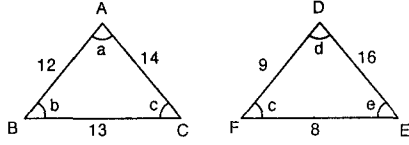
20. Bir üçgenin kenarlarının uzunlukları birbirinden farklı birer tamsayıdır. Üçgenin çevresi 33 br ise en büyük kenarın uzunluğunun alabileceği en küçük değer kaçtır?

A) 11 B) 12 C) 13 D) 14 E) 15

ÜÇGENDE KENAR-AÇI BAĞINTILAR

TEST 5

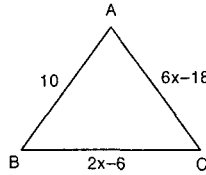
1.



Şekildeki ABC ve DFE üçgenlerinin kenar uzunlukları ve içaçılarının ölçüleri verilmiştir. Buna göre en büyük açı aşağıdakilerden hangisidir?

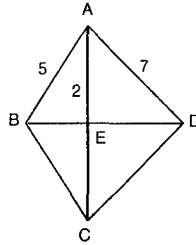
A) a B) b C) c D) d E) e

2. Şekildeki ABC üçgeninde x bir tamsayı ise $\angle C(ABC)$ değeri kaçtır?



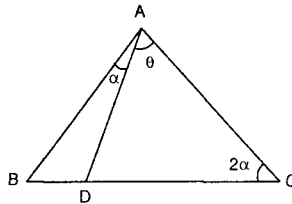
A) 21 B) 26 C) 27 D) 29 E) 30

3. Şekildeki ABCD dörtgeninde IABI = 5 br, IAEI = 2 br ve IADI = 7 br ise ABCD dörtgeninin çevresinin alabileceği en küçük tamsayı değeri kaç br'dir?



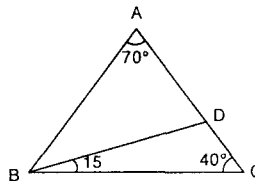
A) 24 B) 23 C) 22 D) 21 E) 20

4. Şekildeki ABC üçgeninde IADI = IDBI ve $36^\circ < \theta < 48^\circ$ ise BAD açısının ölçüsü aşağıdakilerden hangisi olabilir?



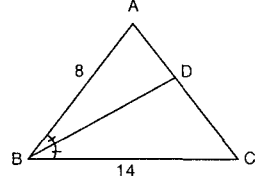
A) 35 B) 36 C) 45 D) 48 E) 56

5. Şekildeki ABC üçgeninde IABI = a br, IDCI = b br ise IBCI kaç br'dir?



A) a B) b C) a + b D) 2a E) 2b

6. ABC üçgeninde [BD] açıortay ve IDCI bir tamsayı ise IACI aşağıdakilerden hangisine eşit olabilir?



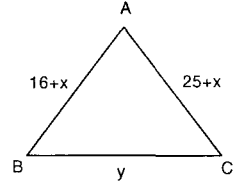
A) 7 B) 9 C) 11 D) 17 E) 21

7. Aşağıda bazı uzunlukları verilen üçgenlerden hangisi ya da hangileri çizilebilir?

- I. $a = 5$ br, $h_a = 5$ br, $h_b = 5$ br
- II. $a = 6$ br, $b = 4$ br, $h_c = 6$ br
- III. $a = 7$ br, $h_a = 7$ br, $h_c = 7$ br
- IV. $a = 6$ br, $b = 4$ br, $h_b = 6$ br

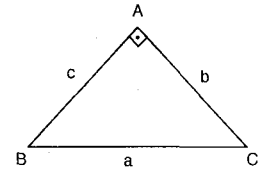
A) I ve III B) Yalnız II C) I, III ve IV
D) Yalnız IV E) I, II, III ve IV

8. Şekildeki ABC üçgeninde $x \in \mathbb{Z}^-$, $y \in \mathbb{Z}$ ise y'nin en küçük değeri için $x + y$ en az kaç olur?



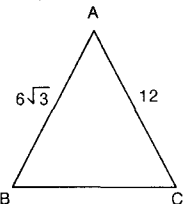
A) -5 B) 0 C) 5 D) 10 E) 15

9. Şekildeki ABC üçgeninde IABI = c br, IACI = b br, IBCI = a br ve $[AB] \perp [AC]$ ise aşağıdakilerden hangisi söylenemez?



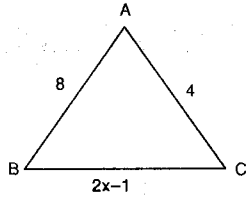
- A) ΔABC sabittir.
- B) $a > b$ ve $a > c$ dir.
- C) $\sqrt{a^2 + b^2} = c$ dir.
- D) $|a - b| < \sqrt{a^2 - b^2} < |a + b|$
- E) $\angle C(ABC)$ sabittir.

10. Şekildeki ABC üçgeninde IABI = $6\sqrt{3}$ br, IACI = 12 br ve $m(A) < 30^\circ$ ise IBCI'nin en büyük tamsayı değeri kaç br'dir?



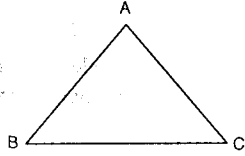
A) 5 B) 6 C) 7 D) 9 E) 11

11. Şekildeki ABC üçgeninde $m(\hat{BAC}) < 90^\circ$ ise x 'in alacağı tamsayı değerlerinin toplamı kaçtır?



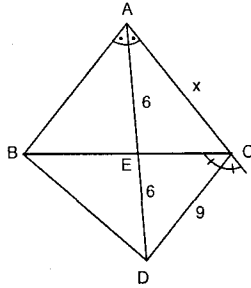
A) 18 B) 15 C) 12 D) 7 E) 4

12. Şekildeki ABC üçgeninde $ABI = 4x - 10$ br, $ACI = 10$ br ve $BCI = 12$ br dir. $x \in \mathbb{Z}$ ve $m(\hat{A}) > 90^\circ$ ise x kaç br'dir?



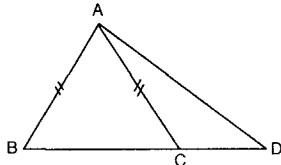
A) 4 B) 5 C) 6 D) 7 E) 8

13. Şekildeki ABC üçgeninde [AD] ve [CD] açıortaydır. $IAEI = IEDI = 6$ br ve $IDCI = 9$ br ise $ACI = x$ 'in alabileceği en büyük ve en küçük tamsayı değerlerinin toplamı kaç br'dir?



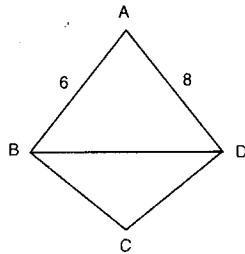
A) 10 B) 11 C) 17 D) 18 E) 25

14. Şekildeki ABD üçgeninde $ADI = 7$ br, $ICDI = 5$ br $ABI = ACI$ ve $ABIE \in \mathbb{Z}$ ise ABI 'nin alabileceği kaç farklı tamsayı değeri vardır?



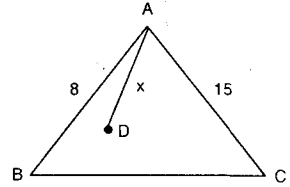
A) 5 B) 4 C) 3 D) 2 E) 1

15. Şekildeki ABCD dörtgeninde $m(\hat{A}) > 90^\circ$, $ABI = 6$ br, $ADI = 8$ br ise $IBDI$ 'nin en küçük tamsayı değeri için $IBCI + ICDI$ toplamı aşağıdakilerden hangisi olabilir?



A) 8 B) 9 C) 10 D) 11 E) 12

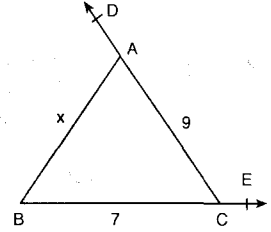
16. Şekildeki üçgende D noktası ABC üçgeninin iç bölgesinde değişken bir noktadır.



$ABI = 8$ br, $ACI = 15$ br ise $ADI = x$ 'in en büyük tamsayı değeri kaçtır?

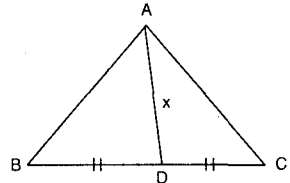
A) 14 B) 13 C) 12 D) 10 E) 9

17. Şekildeki ABC üçgeninde $m(\hat{BAD}) \geq m(\hat{ECA})$ ve $m(\hat{ABC}) \neq m(\hat{ACB})$ ise x 'in alabileceği tamsayı değerlerinin toplamı kaçtır?



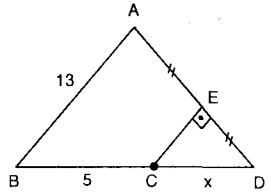
A) 68 B) 83 C) 90 D) 99 E) 115

18. Şekildeki ABC üçgeninde $m(\hat{BAC}) < 90^\circ$, $ABI = 12$ br, $ACI = 14$ br ise $ADI = x$ 'in alabileceği en küçük tamsayı değeri kaç br'dir?



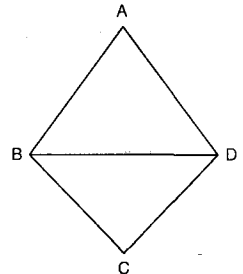
A) 6 B) 7 C) 8 D) 9 E) 10

19. Şekildeki ABC üçgeninde $ABI = 13$ br, $BCI = 5$ br, $IAEI = IEDI$ ve $m(\hat{ECD}) < 45^\circ$ ise $ICDI = x$ aşağıdakilerden hangisi olabilir?



A) 8 B) 10 C) 12 D) 13 E) 18

20. Şekilde $ABI = IADI$ ve $\angle(ABCD) = 50$ br ise $IBDI$ 'nin alabileceği en büyük tamsayı değeri kaç br'dir?



A) 20 B) 21 C) 23 D) 24 E) 25

ÜÇGENDE KENAR-AÇI BAĞINTILAR

TEST 6

1. Şekildeki ABCDE beşgeninde $|\overline{AB}| = 5$ br, $|\overline{BC}| \leq z$ ve

$m(\hat{CBE}) > m(\hat{CDE})$ ise $|\overline{DC}|$ 'nin alabileceği en küçük tamsayı değeri kaç br'dir?

A) 4 B) 5 C) 6 D) 7 E) 8

2. Şekildeki ABCD dörtgeninde $x, y \in \mathbb{Z}$ ve $x > y$ 'dir. $x-y$ 'nin alabileceği en büyük değer için ABCD dörtgeninin çevresi en az kaçtır?

A) 27 B) 28 C) 30 D) 31 E) 33

3. Şekildeki ACDE dörtgeninde $|\overline{EB}| \parallel |\overline{DC}|$, $|\overline{ED}| \parallel |\overline{BC}|$, $|\overline{AD}| = 10$ br ve $|\overline{EB}| \leq z$ ise

$\angle C(\widehat{ACDE})$ 'nin alabileceği en büyük değer kaç br'dir?

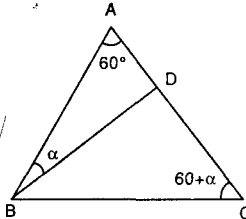
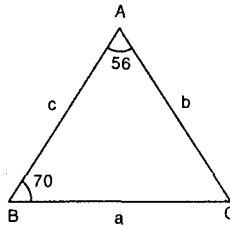
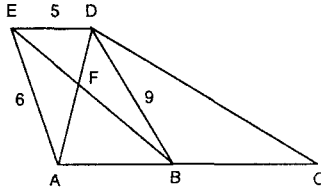
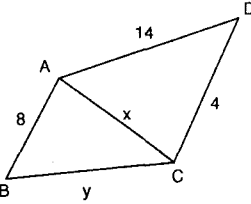
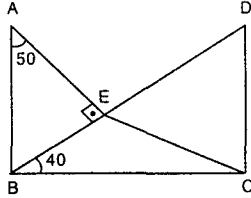
A) 43 B) 47 C) 50 D) 58 E) 63

4. ABC üçgeninde $|\overline{BC}| = a$ br, $|\overline{AC}| = b$ br, $|\overline{AB}| = c$ br ve $|b - a| + |a - c| - |c - b| = x$ ise x kaç br'dir?

A) 0 B) 2a C) 2b D) 2c E) $2b - 2c$

5. ABC üçgeninde $|\overline{BD}| = 5\sqrt{3}$ br ise $|\overline{AD}|$ 'nin alabileceği en büyük tamsayı değeri kaç br'dir?

A) 3 B) 4 C) 5 D) 6 E) 8



6. ABC üçgeninde

$|\overline{AD}|$ açıortay,

$|\overline{AD}| = x$ br,

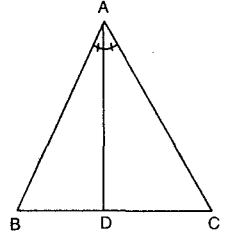
$|\overline{AC}| = 13$ br,

$|\overline{DC}| = 12$ br ve

$m(\hat{B}) - m(\hat{C}) > 0$ ise

x 'in alabileceği kaç farklı tamsayı değeri vardır?

A) 23 B) 21 C) 12 D) 5 E) 3



7. ABC üçgeninde kenar uzunlukları arasında $a \leq b \leq c$ bağıntısı varsa aşağıdakilerden hangisi kesinlikle yanlıştır?

A) $a = 2$ br, $h_a = \sqrt{3}$ br, $h_b = \sqrt{3}$ br

B) $a = 10$ br, $V_a = 12$ br, $b = 13$ br

C) $n_A = 6$ br, $n_B = 4$ br, $n_C = 5$ br

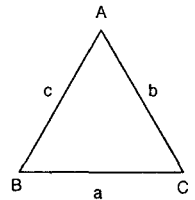
D) $h_a = 8$ br, $h_b = 8$ br, $h_c = 6$ br

E) $V_a = 9$ br, $V_b = 8$ br, $V_c = 7$ br

8. ABC üçgeninde $a = x$ br, $b = 8$ br, $c = 11$ br ve DEF üçgeninde $d = y$ br, $e = 12$ br, $f = 4$ br dir. Bu üçgenlerdeki tüm kenar uzunlukları birbirinden farklı olduğuna göre x kaç farklı tamsayı değeri alabilir?

A) 5 B) 6 C) 8 D) 11 E) 15

9. Şekildeki ABC üçgeninin kenar uzunlukları birbirinden farklı tamsayılar ve $c^2 - b^2 = 13$ br² ise a 'nın alabileceği değerler kaç tanedir?



A) 5 B) 9 C) 11 D) 12 E) 13

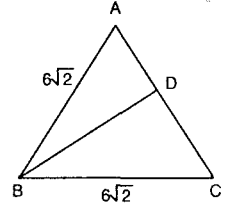
10. Şekildeki üçgende D noktası $|\overline{AC}|$ üzerinde değişken bir noktadır.

$|\overline{AB}| = |\overline{BC}| = 6\sqrt{2}$ br ve

$m(\hat{ABC}) < 90^\circ$ ise

$|\overline{BD}|$ 'nin en küçük tamsayı değeri kaç br'dir?

A) 7 B) 8 C) 9 D) 10 E) 12

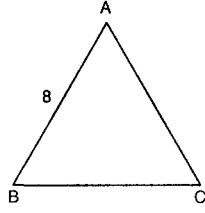


11. Şekildeki üçgende

$$|AB| = 8 \text{ br}, m(\hat{A}) < 90^\circ,$$

$$m(\hat{C}) > m(\hat{B}) \text{ ise}$$

|BC|'nin en büyük tamsayı değeri kaç br'dir?



- A) 13 B) 12 C) 11 D) 10 E) 9

12. Şekilde;

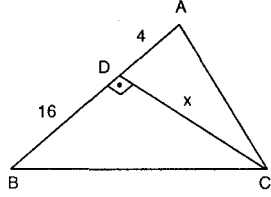
$$m(\hat{ACB}) > 90^\circ,$$

$$|AD| = 4 \text{ br},$$

$$|DB| = 16 \text{ br ise}$$

$$|DC| = x$$

uzunluğunun en büyük tamsayı değeri kaç br'dir?



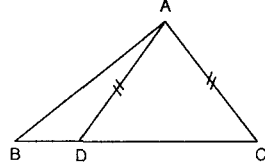
- A) 3 B) 4 C) 5 D) 7 E) 8

13. Şekildeki ABC üçgeninde

$$|BC| = 15 \text{ br},$$

$$|AD| = |AC| = 8 \text{ br ise}$$

|AB| uzunluğunun alabileceği en büyük tamsayı değeri kaç br'dir?



- A) 11 B) 15 C) 16 D) 17 E) 22

14. Şekildeki ABC üçgeninde

$$m(\hat{BAD}) = m(\hat{CAD}),$$

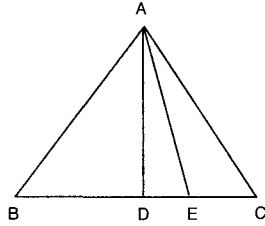
$$m(\hat{ABD}) = m(\hat{ACE})$$

$$\text{ve } |AB| = 9 \text{ br},$$

$$|EC| = 3 \text{ br}$$

$$\text{ise } |AE| \text{ 'nin}$$

alabileceği tamsayı değerlerinin toplamı kaç br'dir?



- A) 19 B) 18 C) 17 D) 16 E) 15

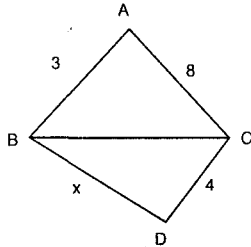
15. Şekildeki dörtgende

$$m(\hat{A}) > 90^\circ,$$

$$m(\hat{D}) > 90^\circ$$

$$\text{ve } |BC| \in \mathbb{Z} \text{ ise } x$$

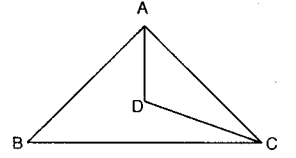
aşağıdakilerden hangisi olamaz?



- A) 9 B) 8 C) 7 D) 6 E) 5

16. Şekildeki ABC üçgeninde D noktası içteğet çemberin merkezi ve
- $|AD| = 3 \text{ br}, |DC| = 4 \text{ br}$

olduğuna göre ABC üçgeninin çevresi tamsayı olarak en az kaç br olabilir?

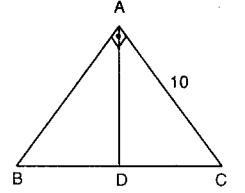


- A) 10 B) 11 C) 12 D) 13 E) 14

17. Şekildeki ABC üçgeninde

$$|AD| = |BD|, |AC| = 10 \text{ br}$$

ve $m(\hat{A}) = 90^\circ$ ise |BD| nin en küçük tamsayı değeri kaç br'dir?



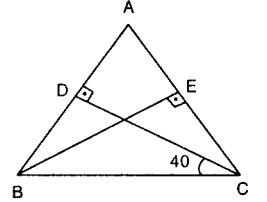
- A) 6 B) 7 C) 8 D) 9 E) 10

18. Şekildeki ABC üçgeninde

$$|DC| < |BE|$$

$$\text{ve } m(\hat{DCB}) = 40^\circ \text{ ise}$$

$m(\hat{ACB})$ nin en küçük tamsayı değeri için $m(\hat{A})$ kaçtır?



- A) 49 B) 59 C) 60 D) 79 E) 80

19. Şekildeki ABC üçgeninde D noktası

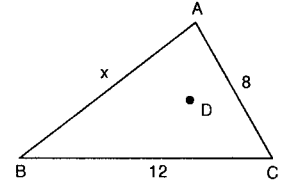
yüksekliklerin kesim noktasıdır.

$$|AC| = 8 \text{ br},$$

$$|BC| = 12 \text{ br ise}$$

$$|AB| = x \text{ 'in}$$

alabileceği en küçük tamsayı değeri kaç br'dir?



- A) 13 B) 12 C) 11 D) 10 E) 9

20. Şekildeki üçgende

$$|FE| = 5 \text{ br},$$

$$|ED| = 8 \text{ br},$$

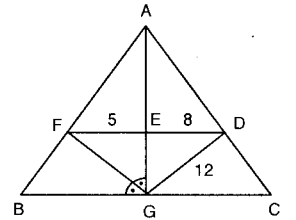
$$|AG| = |GC| \text{ ve}$$

$$m(\hat{EGF}) = m(\hat{FGB})$$

$$\text{ise } |IGF| \text{ 'nin alabi-}$$

$$\text{leceği tamsayı}$$

$$\text{değerleri kaç tanedir?}$$



- A) 3 B) 7 C) 11 D) 18 E) 23

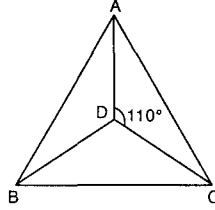
ÜÇGENDE AÇIORTAY

TEST 1

1. Şekildeki ABC üçgeninde D içaçıortayların kesim noktası ve

$$m(\hat{ADC}) = 110^\circ \text{ ise}$$

$m(\hat{ABC})$ kaç derecedir?



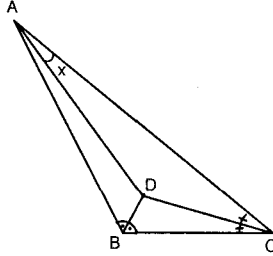
- A) 20 B) 30 C) 40 D) 50 E) 60

2. Şekildeki üçgende, [BD] ve [CD] açıortaydır.

$$m(\hat{DBC}) = 6$$

$$m(\hat{ACD}) = 60^\circ \text{ ise}$$

$m(\hat{DAC}) = x$ kaç derecedir?



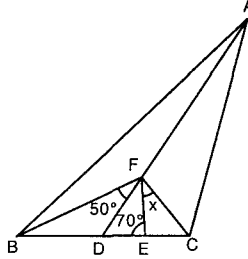
- A) 10 B) 20 C) 25 D) 30 D) 35

3. Şekildeki ABC üçgeninde, F noktası içteğet çemberin merkezidir.

$$m(\hat{BFD}) = 50^\circ,$$

$$m(\hat{DEF}) = 70^\circ \text{ ve A, F, D noktaları doğrusal}$$

ise $m(\hat{EFC}) = x$ kaç derecedir?

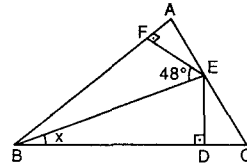


- A) 5 B) 10 C) 15 D) 20 E) 30

4. Şekildeki ABC üçgeninde, [EF] $\perp$ [AB], [ED] $\perp$ [BC], IEFI = IEDI ve

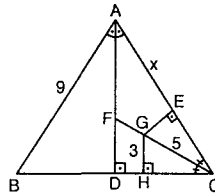
$$m(\hat{FEB}) = 48^\circ \text{ ise}$$

$m(\hat{EDB}) = x$ kaç derecedir?



- A) 32 B) 38 C) 42 D) 48 E) 52

5. Şekildeki ABC üçgeninde [AD] ve [CF] açıortaydır. IABI = 9 br, IGCI = 5 br ve IGHI = 3 br ise IAEI = x kaç br'dir?



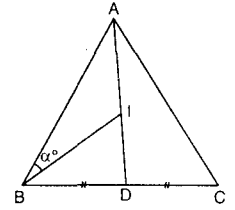
- A) 5 B) $\frac{9}{2}$ C) 4 D) $\frac{7}{2}$ E) 3

6. Şekildeki ABC üçgeninde I noktası içteğet çemberin merkezidir.

$$IBDI = IDCI \text{ ve}$$

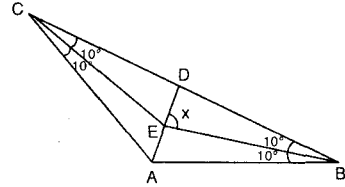
$$m(\hat{ABI}) = \alpha^\circ \text{ ise}$$

C açısının ölçüsü kaç α 'dır?



- A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

- 7.



Şekildeki ABC üçgeninde,

$$m(\hat{DCE}) = m(\hat{ECA}) = m(\hat{EBA}) = m(\hat{DBE}) = 10^\circ \text{ ise}$$

$m(\hat{DEB}) = x$ kaç derecedir?

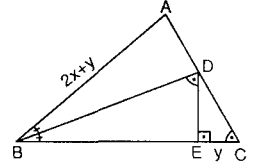
- A) 40 B) 50 C) 60 D) 70 E) 80

8. Şekildeki ABC üçgeninde, IABI = $2x + y$ br, IECI = y br dir.

$$m(\hat{ABD}) = m(\hat{DBC}) \text{ ve}$$

$$m(\hat{BDE}) = m(\hat{DCE}) \text{ ise}$$

IBEI uzunluğu kaç br'dir?



- A) $2x$ B) y C) $x + y$ D) $2x + y$ E) x

9. Şekildeki ABC üçgeninde, [CD] açıortaydır.

$$[CD] \perp [AB],$$

$$ICAI = 6 \text{ br},$$

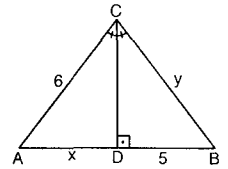
$$IDBI = 5 \text{ br},$$

$$IADI = x \text{ br},$$

$$ICBI = y \text{ br ise}$$

$x + y$ kaç br'dir?

- A) 16 B) 11 C) 10 D) 9 E) 8



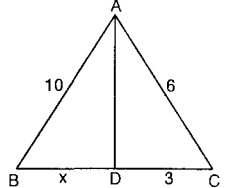
10. Şekildeki ABC üçgeninde [AD] açıortaydır.

$$IABI = 10 \text{ br},$$

$$IACI = 6 \text{ br},$$

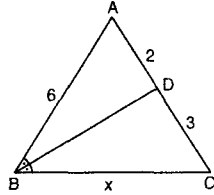
$$IDCI = 3 \text{ br ise}$$

IBDI = x kaç br'dir?



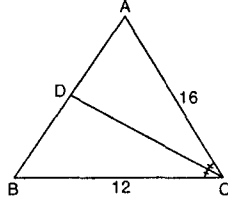
- A) 9 B) 7 C) 6 D) 5 E) 4

11. Şekildeki ABC üçgeninde [BD] açıortaydır.
 $ABI = 6$ br ,
 $IAD = 2$ br ,
 $IDC = 3$ br ise
 $IBC = x$ kaç br dir?



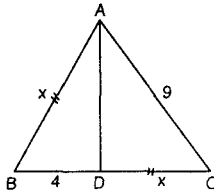
A) 4 B) 6 C) 7 D) 9 E) 12

12. Şekildeki ABC üçgeninde [CD] açıortaydır.
 $IAC = 16$ br ,
 $IBC = 12$ br ve
 $\angle ABC = 42$ br ise
 $IAD - IDB$ kaç br dir?



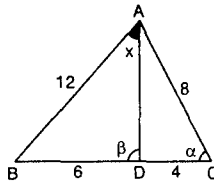
A) $\frac{1}{4}$ B) $\frac{1}{3}$ C) $\frac{1}{2}$ D) 1 E) 2

13. Şekildeki ABC üçgeninde [AD] açıortay,
 $IAC = 9$ br ,
 $IDB = 4$ br ise
 $ABI = IDC = x$ kaç br dir?



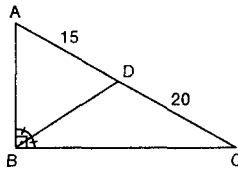
A) 4 B) 5 C) 6 D) 8 E) 9

14. Şekildeki ABC üçgeninde
 $ABI = 12$ br ,
 $IDB = 6$ br ,
 $IAC = 8$ br ,
 $IDC = 4$ br dir.
 $m(\angle ADB) = \beta^\circ$ ve
 $m(\angle ACD) = \alpha^\circ$ ise
 $m(\angle BAD) = x$ kaç derecedir?



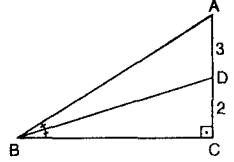
A) $\beta - \alpha$ B) α C) β
D) $\frac{\alpha + \beta}{2}$ E) $\beta + \alpha$

15. Şekildeki ABC dik üçgeninde,
 $IAD = 15$ br ,
 $IDC = 20$ br ve
[BD] açıortay ise
 IBC kaç br dir?



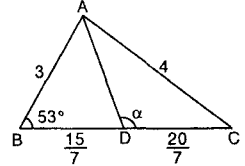
A) 30 B) 28 C) 25 D) 20 E) 15

16. Şekildeki ABC üçgeninde,
 $[AC] \perp [BC]$ ve
[BD] açıortaydır.
 $IDC = 2$ br ve
 $IAD = 3$ br ise
 IBC kaç br dir?



A) $\sqrt{5}$ B) $2\sqrt{3}$ C) 16
D) 18 E) $2\sqrt{5}$

17. Şekildeki ABC üçgeninde,
 $ABI = 3$ br ,
 $IAC = 4$ br ,
 $IDB = \frac{15}{7}$ br ,
 $IDC = \frac{20}{7}$ br ve

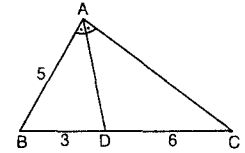


$m(\angle ABD) = 53^\circ$ ise

$m(\angle ADC) = \alpha$ kaç derecedir?

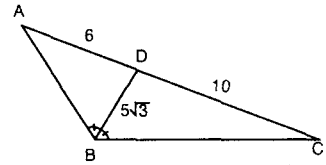
A) 88 B) 89 C) 94 D) 98 E) 103

18. Şekildeki ABC üçgeninde [AD] açıortaydır.
 $ABI = 5$ br ,
 $IDB = 3$ br ve
 $IDC = 6$ br ise
 IAD kaç br dir?



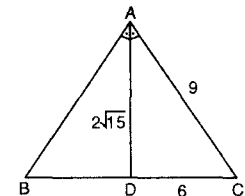
A) 6 B) $4\sqrt{2}$ C) $3\sqrt{3}$
D) 5 E) $2\sqrt{6}$

19. Şekildeki ABC üçgeninde [BD] açıortaydır.
 $IAD = 6$ br ,
 $IDC = 10$ br ve
 $IDB = 5\sqrt{3}$ br ise
 $ABI + IBC$ kaç br dir?



A) 24 B) 22 C) 21 D) 20 E) 18

20. Şekildeki ABC üçgeninde [AD] açıortaydır.
 $IAC = 9$ br ,
 $IDC = 6$ br ve
 $IAD = 2\sqrt{15}$ br ise
 ABI kaç br dir?

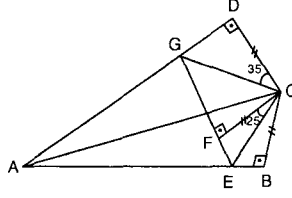


A) 15 B) 14 C) 12 D) 10 E) 8

ÜÇGENDE AÇIORTAY

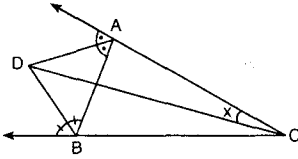
TEST 2

1. Şekildeki dörtgeninde $ICBI = ICFI = ICDI$ ve $m(\widehat{DCG}) = 35^\circ$, $m(\widehat{FCE}) = 25^\circ$ ise $m(\widehat{BAD})$ kaç derecedir?



A) 30 B) 35 C) 45 D) 60 E) 75

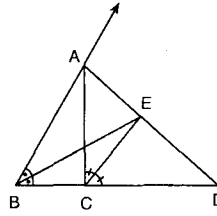
2.



Şekilde, [BD] ve [AD] dışaçıortay, $m(\widehat{DBA}) + m(\widehat{DAB}) = 140^\circ$ ise $m(\widehat{DCA}) = x$ kaç derecedir?

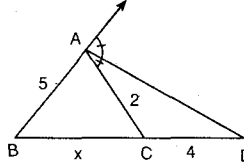
A) 30 B) 40 C) 50 D) 55 E) 60

3. Şekildeki ABC üçgeninde [CE] dışaçıortay, [BE] içaçıortaydır. $IBAI = 10$ br, $IACI = 8$ br ve $IBCI = 4$ br ise $ICDI$ kaç br'dir?



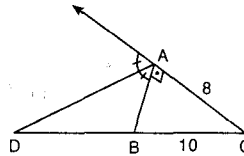
A) 8 B) 10 C) 12 D) 14 E) 16

4. Şekildeki ABC üçgeninde [AD] dışaçıortay, $IBAI = 5$ br, $IACI = 2$ br ve $ICDI = 4$ br ise $IBCI = x$ kaç br'dir?



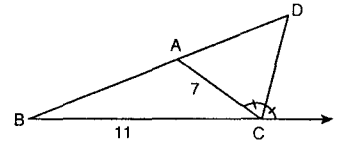
A) 7 B) 6 C) 5 D) 4 E) 3

5. Şekildeki ABC üçgeninde [AD] dışaçıortay ve $m(\widehat{BAC}) = 90^\circ$ dir. $IBAI = 8$ br, $IBCI = 10$ br ise $ICDI$ kaç birimdir?



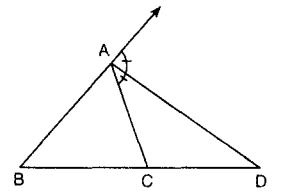
A) 40 B) 30 C) 25 D) 15 E) 12

6. Şekildeki ABC üçgeninde [CD] dışaçıortaydır. $IACI = 7$ br $IBCI = 11$ br ise $\frac{IAD}{IAB}$ oranı kaçtır?



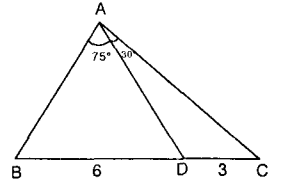
A) $\frac{11}{4}$ B) $\frac{5}{2}$ C) $\frac{11}{4}$ D) 2 E) $\frac{7}{4}$

7. Şekildeki ABC üçgeninde [AD] dışaçıortaydır. $5ICDI = 3IBCI$ ve $IBAI + IACI = 22$ br ise $IACI$ kaç br'dir?



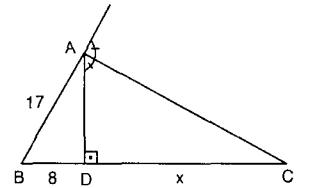
A) 6 B) 7 C) 8 D) 9 E) 10

8. Şekildeki ABC üçgeninde $IBDI = 6$ br, $IDCI = 3$ br ve $m(\widehat{BAD}) = 75^\circ$, $m(\widehat{DAC}) = 30^\circ$ ise $\frac{IACI}{IADI}$ kaçtır?



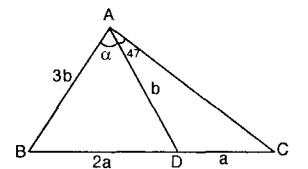
A) 2 B) $\frac{3}{2}$ C) 1 D) $\frac{2}{3}$ E) $\frac{1}{2}$

9. Şekildeki ABD üçgeninde [AC] dışaçıortaydır. $[AD] \perp [BC]$ ve $IBAI = 17$ br, $IBDI = 8$ br ise $IDCI = x$ kaç br'dir?



A) 42 B) 49 C) 50 D) 58 E) 60

10. Şekildeki ABC üçgeninde $m(\widehat{DAC}) = 47^\circ$, $IDCI = a$ br, $IBDI = 2a$ br, $IADI = b$ br,



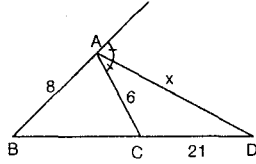
$IBAI = 3b$ br ise $m(\widehat{BAD}) = \alpha$ kaç derecedir?

A) 74 B) 82 C) 84 D) 86 E) 94

11. Şekildeki ABC üçgeninde [AD] dışağırtaydır.

$|AB| = 8$ br,
 $|AC| = 6$ br ve

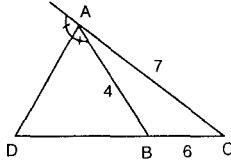
$|CD| = 21$ br ise $|AD| = x$ kaç br'dir?



- A) $3\sqrt{5}$ B) $3\sqrt{15}$ C) $6\sqrt{5}$
D) $6\sqrt{15}$ E) 30

12. Şekildeki ABC üçgeninde [AD] dışağırtaydır.

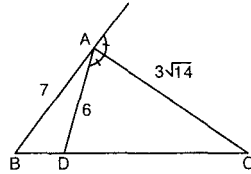
$|AB| = 4$ br, $|AC| = 7$ br
ve $|BC| = 6$ br ise $|AD|$
kaç br'dir?



- A) 8 B) $6\sqrt{2}$ C) $4\sqrt{5}$ D) 9 E) $2\sqrt{21}$

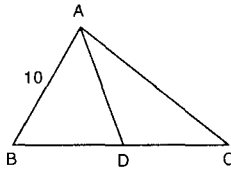
13. Şekildeki ABD üçgeninde [AC] dışağırtaydır.

$|AD| = 6$ br, $|AB| = 7$ br
ve $|AC| = 3\sqrt{14}$ br ise
 $|BC|$ kaç br'dir?



- A) 14 B) 12 C) 8 D) 4 E) 2

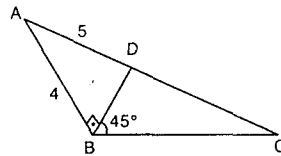
14. Şekildeki ABC üçgeninde $|AB| = 10$ br,
 $|DC| = |AD| + 3 = |BD| + 3$ ve
 $m(\hat{A}BD) = 180 - 2m(\hat{A}C)$
ise $|DC|$ kaç br'dir?



- A) 15 B) 9 C) 8 D) 7 E) 6

15. Şekildeki ABC üçgeninde
[DB] $\perp$ [AB] ve
 $m(\hat{DBC}) = 45^\circ$ dir.

$|AB| = 4$ br,
 $|AD| = 5$ br ise $|BC|$ kaç br'dir?

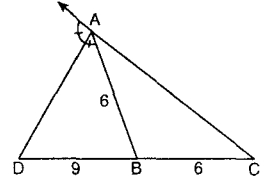


- A) 15 B) $11\sqrt{2}$ C) $12\sqrt{2}$
D) 17 E) 19

16. Şekildeki ABC üçgeninde [AD] dışağırtaydır.

$|AB| = |BC| = 6$ br ve
 $|DB| = 9$ br ise $\frac{|AD|}{|AC|}$

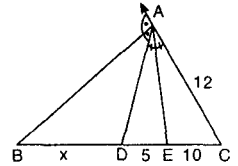
kaçtır?



- A) $3\sqrt{3}$ B) 3 C) $\sqrt{3}$ D) $\frac{\sqrt{3}}{2}$ E) $\frac{\sqrt{3}}{3}$

17. Şekildeki üçgende [AE] içağırtay, [AB] dışağırtaydır.

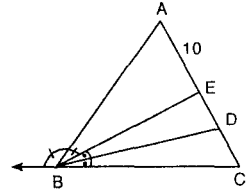
$|AC| = 12$ br, $|DE| = 5$ br
ve $|EC| = 10$ br ise
 $|BD| = x$ kaç br'dir?



- A) 15 B) 14 C) 13 D) 10 E) 9

18. Şekildeki üçgende [AB] dışağırtay ve [BD] içağırtaydır.

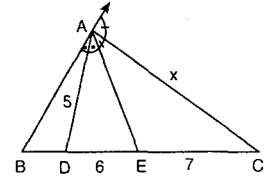
$\frac{|ED|}{|EC|} = \frac{2}{5}$ ve $|AE| = 10$ br
ise $|ED| + |EC|$ kaç br'dir?



- A) 2 B) 3 C) 5 D) 6 E) 7

19. Şekildeki üçgende [AD] içağırtay ve [AC] dışağırtaydır.

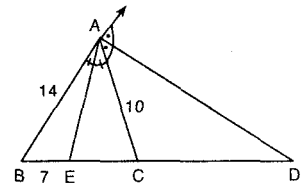
$|AD| = 5$ br,
 $|DE| = 6$ br ve
 $|EC| = 7$ br ise
 $|AC| = x$ kaç br'dir?



- A) 9 B) 10 C) 12 D) 13 E) 14

20. Şekildeki ABC üçgeninde [AE] içağırtay, [AD] dışağırtay ve $|AB| = 14$ br,

$|BE| = 7$ br,
 $|AC| = 10$ br ise $|ED|$ kaç br'dir?



- A) 27 B) 30 C) 33 D) 35 E) 36

ÜÇGENDE AÇIORTAY

TEST

3

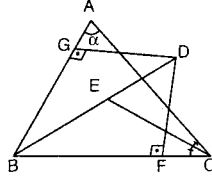
1. Şekildeki ABC üçgeninde

$$m(\widehat{ACE}) = m(\widehat{ECB}) = 20^\circ$$

$$m(\widehat{EDF}) = 50^\circ \text{ ve}$$

$$IGDI = IDFI \text{ ise}$$

$$m(\widehat{A}) = \alpha \text{ kaç derecedir?}$$

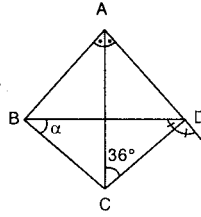


- A) 80 B) 70 C) 68 D) 65 E) 60

2. Şekildeki beşgende
[AC] ve [DC] açıortaydır.

$$m(\widehat{ACD}) = 36^\circ \text{ ise}$$

$$m(\widehat{DBC}) = \alpha \text{ kaç derecedir?}$$



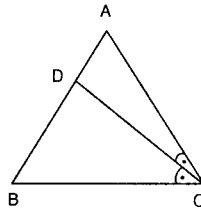
- A) 72 B) 66 C) 62 D) 54 E) 52

3. Şekildeki ABC üçgeninde

$$m(\widehat{ACD}) = m(\widehat{DCB}) \text{ ve}$$

$$\frac{IADI}{IDBI} = \frac{3}{4} \text{ dir.}$$

$$IACI + IBCI = 28 \text{ br ise } IBCI \text{ kaç br'dir?}$$

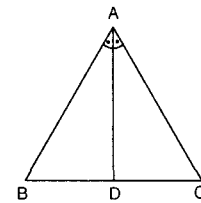


- A) 16 B) 14 C) 13 D) 12 E) 10

4. Şekildeki ABC üçgeninde
[AD] açıortaydır.

$$IBDI = 5 \text{ br ve } IBCI = 7 \text{ br}$$

$$\text{ise } \widehat{ABC} \text{ nın en büyük tamsayı değeri kaç br'dir?}$$



- A) 24 B) 23 C) 22 D) 21 E) 20

5. Şekildeki ABC üçgeninde

$$m(\widehat{ABD}) = a^\circ,$$

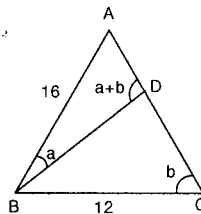
$$m(\widehat{ACB}) = b^\circ,$$

$$m(\widehat{ADB}) = (a + b)^\circ,$$

$$IABI = 16 \text{ br,}$$

$$IBCI = 12 \text{ br}$$

$$\text{ve } IACI = 21 \text{ br ise } IADI - IDCI \text{ kaç br'dir?}$$



- A) 1 B) 2 C) 3 D) 4 E) 5

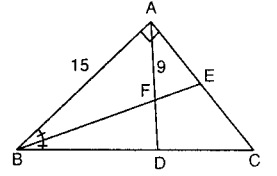
6. Şekildeki ABC dik üçgeninde

$$IBDI = IDCI,$$

$$[BE] \text{ açıortay,}$$

$$IABI = 15 \text{ br,}$$

$$IAFI = 9 \text{ br ise } IBCI \text{ kaç br'dir?}$$



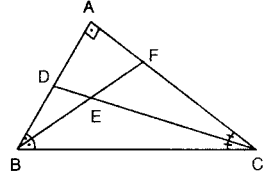
- A) 25 B) 30 C) 36 D) 42 E) 45

7. Şekildeki üçgende
[BF] ve [CD]
içaçıortaylardır.

$$2IDEI = ICEI \text{ ve}$$

$$IACI = 8 \text{ br ise}$$

$$IDBI + IBCI \text{ kaç br'dir?}$$



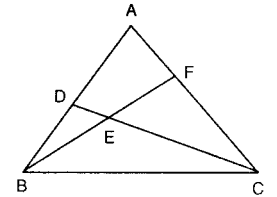
- A) 20 B) 18 C) 16 D) 15 E) 12

8. Şekildeki üçgende E noktası içteğet çemberin merkezi olup IBEI = 3IEFI dir.

$$IACI = 12 \text{ br ve}$$

$$IBCI = 15 \text{ br ise}$$

$$IABI \text{ kaç br'dir?}$$



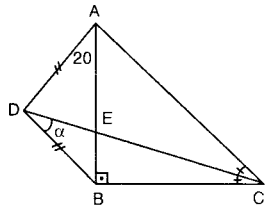
- A) 27 B) 24 C) 21 D) 20 E) 18

9. Şekildeki ADBC dörtgeninde
[AB] ⊥ [BC],

$$m(\widehat{ACD}) = m(\widehat{DCB}),$$

$$m(\widehat{DAB}) = 20^\circ \text{ ve}$$

$$IADI = IDBI \text{ ise } m(\widehat{BDC}) = \alpha \text{ kaç derecedir?}$$



- A) 55 B) 50 C) 45 D) 40 E) 35

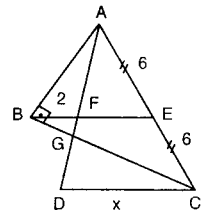
10. Şekildeki ABC diküçgeninde

$$IAEI = IECI = 6 \text{ br dir.}$$

$$IBFI = 2 \text{ br ve}$$

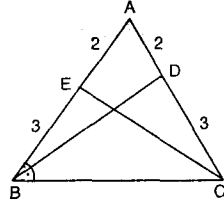
$$m(\widehat{ACB}) = m(\widehat{BCD}) \text{ ise}$$

$$IDCI = x \text{ kaç br'dir?}$$



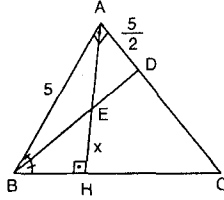
- A) 5 B) 7 C) 8 D) 10 E) 12

11. Şekildeki ABC üçgeninde [BD] içaçıortaydır.
 $|AE| = |AD| = 2$ br,
 $|BE| = |CD| = 3$ br ise
 $|EC|$ kaç br'dir?



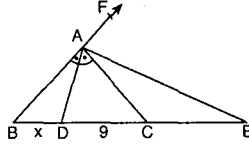
- A) $\frac{5\sqrt{2}}{2}$ B) $\frac{7\sqrt{2}}{2}$ C) $4\sqrt{2}$
 D) $\frac{3\sqrt{14}}{2}$ E) $2\sqrt{14}$

12. Şekildeki ABC üçgeninde $|AB| = 5$ br,
 $|AD| = \frac{5}{2}$ br ve [BD] açıortaydır.
 $m(\hat{BAC}) = m(\hat{BHA}) = 90^\circ$ ise $|EH| = x$ kaç br'dir?



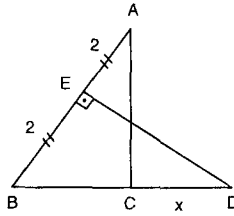
- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

13. Şekildeki ABC üçgeninde [AD] içaçıortaydır.
 $|DC| = 9$ br ve
 $[AD] \perp [AE]$ ise
 $|BD| = x$ kaç br olabilir?



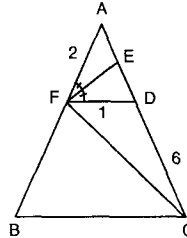
- A) 10 B) 9 C) 8 D) 7 E) 6

14. Şekildeki ABC üçgeninde
 $|AE| = |EB| = 2$ br,
 $|BD| = 8$ br'dir.
 $[AB] \perp [ED]$ ve
 $2m(\hat{A}) = m(\hat{B})$ ise
 $|CD| = x$ kaç br'dir?



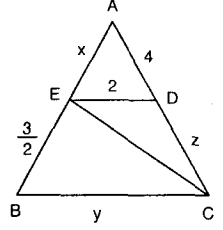
- A) $\frac{13}{2}$ B) $\frac{32}{5}$ C) 6 D) $\frac{11}{2}$ E) $\frac{16}{3}$

15. Şekildeki ABC üçgeninde
 $m(\hat{AFE}) = m(\hat{EPD})$,
 $2m(\hat{BFC}) = m(\hat{DFB})$ dir.
 $|AF| = 2$ br, $|FD| = 1$ br ve
 $|DC| = 6$ br ise $|AE|$ kaç br'dir?



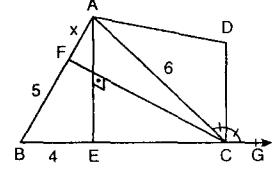
- A) 4 B) $\frac{7}{2}$ C) 3 D) $\frac{5}{2}$ E) 2

16. Şekildeki ABC üçgeninde
 $[ED] \parallel [BC]$ dir.
 $\frac{z+4}{x} = \frac{2y}{3}$ ise
 $x.y.z$ kaçtır?



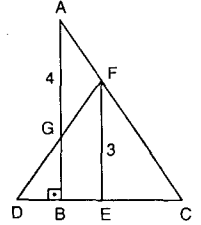
- A) 14 B) 16 C) 18 D) 21 E) 24

17. Şekildeki ABC üçgeninde
 $|BF| = 5$ cm
 $|AC| = 6$ cm
 $|BE| = 4$ cm
 $[AE] \parallel [CD]$ ve
 $m(\hat{ACD}) = m(\hat{DCG})$ ise $|AF| = x$ kaç cm'dir?



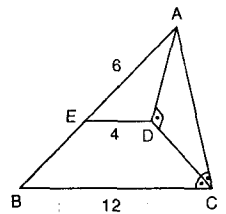
- A) 1 B) 2 C) 3 D) 4 E) 5

18. Şekildeki ABC dik üçgeninde
 $[FE] \parallel [AB]$
ve $|DE| = |EC|$ dir.
 $|AG| = 4$ br,
 $|FE| = 3$ br ise
 $|GB|$ kaç br'dir?



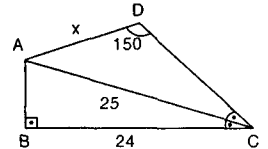
- A) $\frac{5}{2}$ B) 2 C) $\frac{3}{2}$ D) 1 E) $\frac{1}{2}$

19. Şekildeki ABC üçgeninde
 $[DC]$ açıortay, $[AD] \perp [DC]$
ve $[ED] \parallel [BC]$ dir.
 $|AE| = 6$ br, $|ED| = 4$ br ve
 $|BC| = 12$ br ise $\angle ABC$ kaç br'dir?



- A) 38 B) 36 C) 34 D) 30 E) 28

20. Şekildeki ABCD dörtgeninde
 $[AB] \perp [BC]$,
 $m(\hat{DCA}) = m(\hat{ACB})$,
 $|AC| = 25$ br ve
 $|BC| = 24$ br dir.
 $m(\hat{ADC}) = 150^\circ$ ise $|AD| = x$ kaç br'dir?

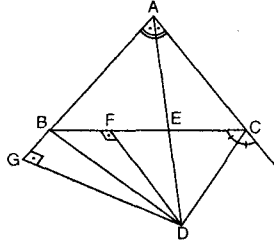


- A) 8 B) 10 C) 12 D) 13 E) 14

ÜÇGENDE AÇIORTAY

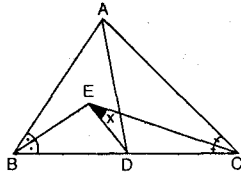
TEST 4

1. Şekildeki AGDC dörtgeninde [AE] ve [CD] açortay, $|ED| = 15$ br, $|FD| = 12$ br ve $|GB| = 5$ br ise **|BE| kaç br dir?**



A) 14 B) 13 C) 11 D) 10 E) 9

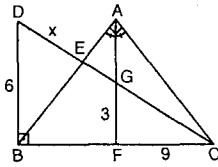
2. Şekildeki ABC üçgeninde, $m(\hat{BAC}) = 90^\circ$, $m(\hat{ABC}) = 60^\circ$, $|BD| = |DC|$, [BE] ve [CE] açortaylar olmak üzere



$m(\hat{CED}) = x$ kaç derecedir?

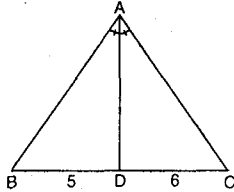
A) 7,5 B) 10 C) 15 D) 22,5 E) 30

3. ABC ikizkenar dik üçgen, $[DB] \perp [BC]$, [AF] içaçortaydır. $|DB| = 6$ br, $|GF| = 3$ br ve $|FC| = 9$ br ise **|DE| = x kaç br dir?**



A) $\frac{3\sqrt{10}}{2}$ B) $\frac{5\sqrt{10}}{2}$ C) $3\sqrt{10}$
D) $\frac{7\sqrt{10}}{2}$ E) $\frac{9\sqrt{10}}{2}$

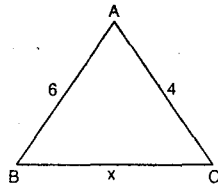
4. Şekildeki ABC üçgeninde $|BD| = 5$ br, $|DC| = 6$ br ve tüm kenar uzunlukları birer tamsayıdır. [AD] içaçortay ise



Δ
Ç(ABC) nın en küçük değeri kaç br dir?

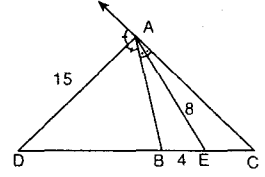
A) 23 B) 25 C) 33 D) 40 E) 47

5. Şekildeki ABC üçgeninde $m(\hat{A}) = 2m(\hat{C})$ ve $|AB| = 6$ br, $|AC| = 4$ br ise **|BC| = x kaç br dir?**



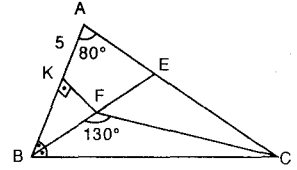
A) $\sqrt{3}$ B) $\sqrt{5}$ C) $\sqrt{15}$
D) $2\sqrt{15}$ E) 15

6. Şekildeki ABC üçgeninde [AE] içaçortay, [AD] dışaçortaydır. $|AD| = 15$ br, $|AE| = 8$ br ve $|BE| = 4$ br ise **|BD| kaç br dir?**



A) 13 B) 12 C) 11 D) 10 E) 9

7. ABC üçgeninde [BE] açortay, $[FK] \perp [AB]$



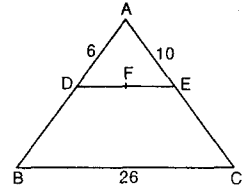
$m(\hat{BAC}) = 80^\circ$,

$m(\hat{BFC}) = 130^\circ$,

Δ
Çevre(ABC) = 28 br ve $|AK| = 5$ br ise **|BC| kaç br dir?**

A) 11 B) $\frac{21}{2}$ C) 10
D) $\frac{19}{2}$ E) 9

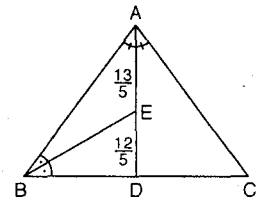
8. Şekildeki ABC üçgeninde F; içteğet çemberin merkezidir. $[DE] \parallel [BC]$ ve $|DE| = 14$ br, $|AD| = 6$ br, $|AE| = 10$ br, $|BC| = 26$ br ise



Δ
Ç(ABC) kaç br dir?

A) 58 B) 56 C) 54 D) 50 E) 48

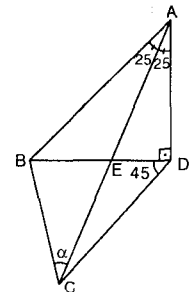
9. Şekildeki ABC üçgeninde [AD] ve [BE] açortay ve $|AB| = |AC|$ dir. $|AE| = \frac{13}{5}$ br, $|DE| = \frac{12}{5}$ br ise



Δ
Ç(ABC) kaç br dir?

A) 40 B) 43 C) 45 D) 50 E) 53

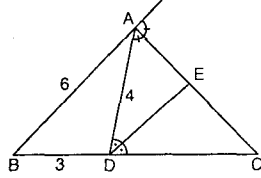
10. Şekilde, $m(\hat{ADB}) = 90^\circ$, $m(\hat{BAE}) = m(\hat{CAD}) = 25^\circ$, $m(\hat{EDC}) = 45^\circ$ ve A, E, C noktaları doğrusal ise **$m(\hat{BCE}) = \alpha$ kaç derecedir?**



A) 15 B) 20 C) 45 D) 55 E) 60

11. Şekildeki ABC üçgeninde, [AC] ve [DE] açortaydır.

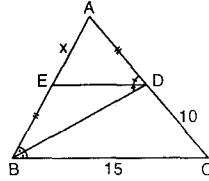
IBDI = 3 br ,
IADI = 4 br ,
IABI = 6 br ise
IECI kaç br dir?



- A) $\frac{2\sqrt{30}}{5}$ B) $\frac{3\sqrt{30}}{5}$ C) $\sqrt{122}$
D) $5\sqrt{6}$ E) $\frac{4\sqrt{30}}{5}$

12. Şekildeki ABC üçgeninde, [BD] ve [ED] açortaydır.

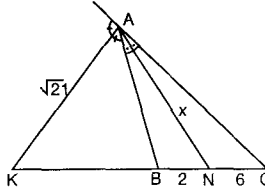
IADI = IBEI ,
IBCI = 15 br ve
IDCI = 10 br ise,
IAEI = x kaç br dir?



- A) 25 B) 20 C) 15 D) $\frac{25}{16}$ E) $\frac{29}{16}$

13. Şekildeki ABC üçgeninde [AN] ve [AK] , A açısının iç ve dış açortaylarıdır.

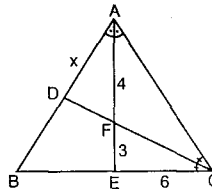
IBNI = 2 br ,
INCI = 6 br ve
IAKI = $\sqrt{21}$ br ise
IANI = x kaç br dir?



- A) $2\sqrt{21}$ B) $2\sqrt{39}$ C) $2\sqrt{41}$
D) $2\sqrt{51}$ E) $\sqrt{15}$

14. Şekildeki ABC üçgeninde [AE] ve [CD] açortaydır.

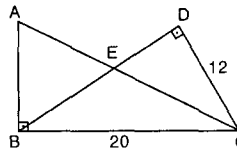
IAFI = 4 br ,
IFEI = 3 br ve
IECI = 6 br ise
IADI = x kaç br dir?



- A) 3 B) $\frac{24}{7}$ C) 4 D) $\frac{32}{7}$ E) 5

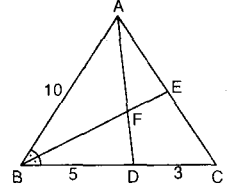
15. ABC ve BDC üçgenleri dik üçgenlerdir.

$m(\hat{BCA}) = m(\hat{ACD})$,
IBCI = 20 br ,
IDCI = 12 br ise,
IACI kaç br dir?



- A) $10\sqrt{5}$ B) 25 C) 27
D) $15\sqrt{5}$ E) 40

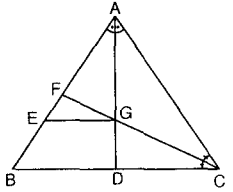
16. Şekildeki ABC üçgeninde [AD] ve [BE] açortaydır.
IABI = 10 br ,
IBDI = 5 br ,
IDCI = 3 br ise
IEFI oranı kaçtır?



- A) $\frac{1}{3}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{13}{3}$

17. Şekildeki ABC üçgeninde [AD] ve [CF] açortaydır.

[EG] // [BC] ,
IEBI = 5 br ve
IFGI = 3 br ise
IEFI'nin en büyük tam sayısı değeri kaç br dir?

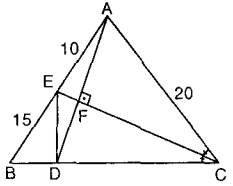


- A) 3 B) 4 C) 5 D) 6 E) 7

18. Şekildeki ABC üçgeninde [CE] açortaydır.

[AD] ⊥ [EC] ,
IAEI = 10 br ,
IEBI = 15 br ve
IACI = 20 br ise,

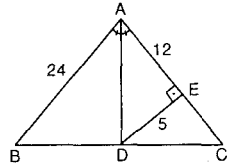
Ç(EBD) kaç br dir?



- A) 36 B) 35 C) 33 D) 30 E) 27

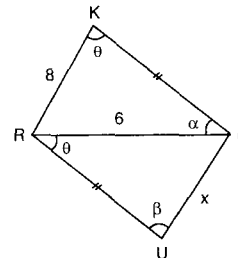
19. Şekildeki ABC üçgeninde [AD] açortaydır.

[DE] ⊥ [AC] ,
IDEI = 5 br ,
IAEI = 12 br ve
IABI = 24 br ise
IBDI kaç br dir?



- A) 6 B) 8 C) 10 D) 13 E) 17

- 20.



Şekildeki üçgenlerin ortak kenarı [RL],

$m(\hat{RKL}) = m(\hat{RLU}) = \theta$, $\alpha + \beta = 180^\circ$, $IKRI = 8$ cm ,
 $IRLI = 6$ cm ve $IKLI = IRUI$ ise $IULI = x$ kaç cm'dir?

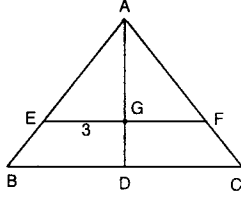
- A) 4 B) $\frac{13}{3}$ C) $\frac{9}{2}$
D) 5 E) 6

ÜÇGENDE KENARORTAY

TEST

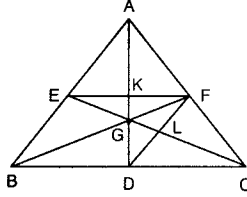
1

1. ABC üçgeninde
G ağırlık merkezi,
[EF] // [BC] ve
|EG| = 3 br ise
|BC| kaç br'dir?

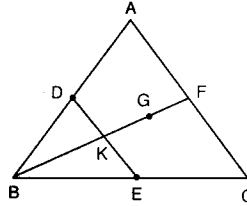


A) 6 B) 8 C) 9 D) 10 E) 12

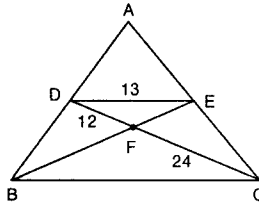
2. Şekildeki ABC
üçgeninde G ağırlık
merkezi ise
 $\frac{|IGK| + |IGL|}{|AG| + |IGC|}$ nın
değeri nedir?

A) $\frac{2}{3}$ B) $\frac{1}{2}$ C) $\frac{1}{3}$ D) $\frac{1}{4}$ E) $\frac{1}{6}$

3. Şekilde D, E, F orta
noktalar olup G ağırlık
merkezi. $|IGK| = \frac{1}{2}$ br
ise |BF| kaç br'dir?

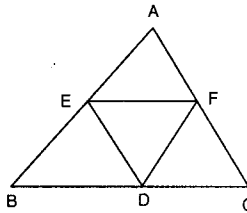
A) 1 B) $\frac{3}{2}$ C) 2 D) 3 E) 4

4. Şekilde [DE] // [BC]
|DE| = 13 br,
|DF| = 12 br ve
|FC| = 24 br ise
|BC| kaç br'dir?



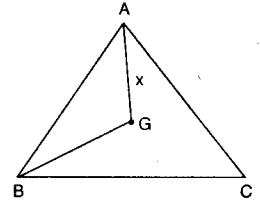
A) 18 B) 24 C) 25 D) 26 E) 30

5. ABC üçgeninde D, E,
F noktaları bulunduk-
ları kenarların orta
noktalarıdır.
|DF| = 5 br ve
|ED| = 6 br ise |BC|
kenarının alabileceği
en büyük tamsayı değeri nedir?

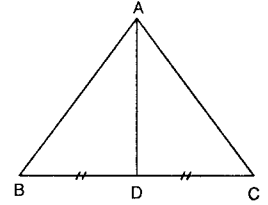


A) 18 B) 19 C) 20 D) 21 E) 22

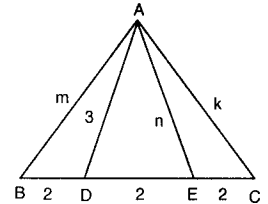
6. ABC üçgeninde
|AB| = |AC| ve
G ağırlık merkezidir.
|BC| = 12 br ve
|BG| = $3\sqrt{5}$ br ise
|AG| = x nedir?

A) 3 B) 6 C) $3\sqrt{5}$ D) $5\sqrt{2}$ E) 8

7. ABC üçgeninde
[AD] kenarortay
|BC| = $4\sqrt{3}$ br,
|AB| = $2\sqrt{5}$ br ve
|AC| = 4 br ise
|AD| nedir?

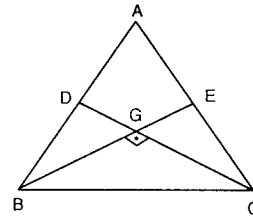
A) $\sqrt{3}$ B) $\sqrt{6}$ C) $2\sqrt{3}$ D) $2\sqrt{6}$ E) $3\sqrt{3}$

8. Şekildeki üçgende
|AB| = m,
|AE| = n,
|AC| = k'dır.
|BD|=|DE|=|EC|=2 br
ise $2m^2 + k^2$ kaç
br²dir?



A) 51 B) 50 C) 49 D) 48 E) 47

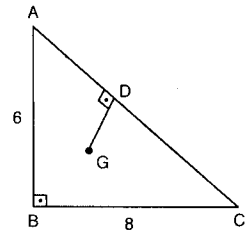
9.



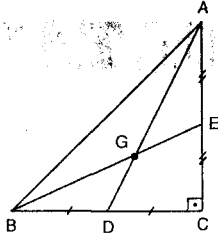
ABC üçgeninde [BE] ⊥ [DC] ve
|AD| = |BD| = |AE| = |EC| = $6\sqrt{5}$ br ise
|GC| kaç br'dir?

A) 9 B) 12 C) 15 D) 18 E) 21

10. ABC dik üçgeninde
G ağırlık merkezi ve
[GD] ⊥ [AC] dir.
|AB| = 6 br ve
|BC| = 8 br ise
|GD| nedir?

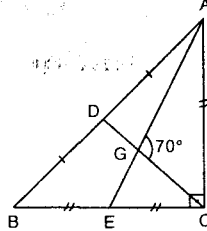
A) $\frac{4}{5}$ B) 1 C) $\frac{6}{5}$ D) $\frac{7}{5}$ E) $\frac{8}{5}$

11. ABC dik üçgeninde
 $m(\hat{C}) = 90^\circ$, [AD] ve [BE]
kenarortaydır.
 $|BE| = \sqrt{56}$ br ve
 $|AD| = \sqrt{44}$ br ise
|AB| kaç br'dir?



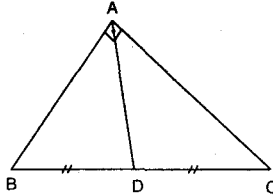
- A) $2\sqrt{5}$ B) $3\sqrt{5}$ C) $4\sqrt{5}$
D) $5\sqrt{5}$ E) $6\sqrt{5}$

12. ABC üçgeninde
 $m(\hat{C}) = 90^\circ$
 $|BD| = |AD|$,
 $|CE| = |BE| = |AC|$ ve
 $m(\hat{AGC}) = 70^\circ$ ise **$m(\hat{ABC})$
kaç derecedir?**



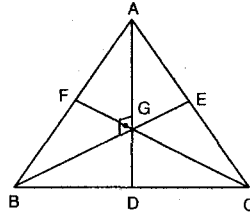
- A) 20 B) 25 C) 30 D) 35 E) 40

13. ABC üçgeninde
 $m(\hat{A}) = 90^\circ$
 $|BD| = 8$ br ise
 $V_b^2 + V_c^2$ kaç
br²'dir?



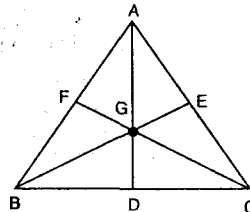
- A) 320 B) 340 C) 360
D) 380 E) 400

14. ABC üçgeninde D, E-
F bulundukları kenar-
ların orta noktaları
olup [AD] $\perp$ [BE] dir.
 $|AB| = 12$ br ise **|FC|
kaç br'dir?**



- A) 6 B) 12 C) 15 D) 18 E) 24

15. ABC üçgeninde G
ağırlık merkezi,
 $|AD| = 8$ br,
 $|BE| = 6$ br ve
 $|FC| = 2\sqrt{5}$ br ise
 $a^2 + b^2 + c^2$ kaç
br²'dir?

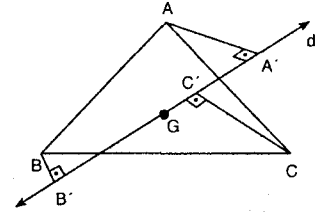


- A) 120 B) 160 C) 180 D) 200 E) 240

16. Bir ABC üçgeninde $a = 12$ br, $b = 8$ br ve $c = 6$ br
ise **en kısa kenarortayın uzunluğu kaç br'dir?**

- A) 3 B) $\sqrt{14}$ C) 4 D) $2\sqrt{14}$ E) 8

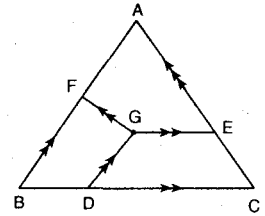
17. Şekildeki d
doğrusu ABC
üçgeninin ağırlık
merkezinden
geçmektedir.
[AA'] $\perp$ d,
[BB'] $\perp$ d,
[CC'] $\perp$ d,
 $|AA'| = 3$ br ve $|CC'| = 5$ br ise **|BB'| kaç br'dir?**



- A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

18. ABC eşkenar üçgen
ve G ağırlık merkezi-
dir.

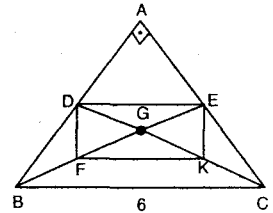
- [GE] // [BC],
[GD] // [AB],
[GF] // [AC],
 $|GD| = 3$ br ise
|BC| kaç br'dir?



- A) 3 B) 5 C) 6 D) 9 E) 12

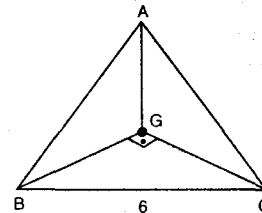
19. Şekildeki ABC
üçgeninde

- $m(\hat{A}) = 90^\circ$ ve G
ağırlık merkezidir.
 $|BF| = |FG|$,
 $|IG| = |IK|$ ve
 $|BC| = 6$ br ise **DFKE
dörtgeninin çevresi
kaç br'dir?**



- A) 6 B) 7 C) 8 D) 9 E) 10

- 20.



- ABC üçgeninde $m(\hat{BGC}) = 90^\circ$ G ağırlık merkezidir.
 $|BC| = 6$ br ise **$|AG|^2 + |BG|^2 + |CG|^2$ toplamı kaç
br²'dir?**

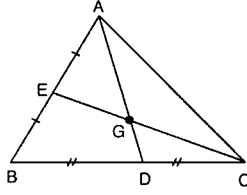
- A) 36 B) 48 C) 72 D) 80 E) 90

ÜÇGENDE KENARORTAY

TEST

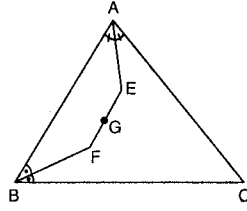
2

1. Şekildeki ABC üçgeninde
 $IAEI = IEBI$,
 $IBDI = IDC$
 $IGI = 4$ cm ve
 $ICEI = 15$ cm ise
 $IGCI + IGD$ kaç cm'dir?



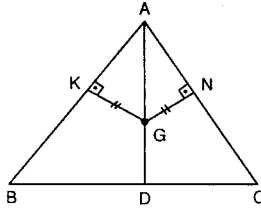
A) 8 B) 10 C) 12 D) 13 E) 14

2. Şekildeki üçgende
 $[AE]$ ve $[BF]$ açıortay
 $[EF] \parallel [AB]$ ve G ağırlık
merkezi.
 $IACI + IBCI = 21$ br ve
 $IABI = 18$ br ise **$IEFI$
kaç br'dir?**



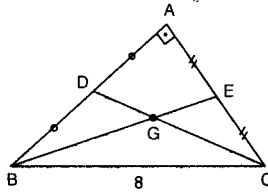
A) 13 B) 9 C) 6 D) 5 E) 2

3. Şekilde, $[GK] \perp [AB]$,
 $[GN] \perp [AC]$
G ağırlık merkezi,
 $IGNI = IGKI$,
 $IBDI = 8$ br ve
 $IAGI = 10$ br ise **$IABI$
kaç br'dir?**



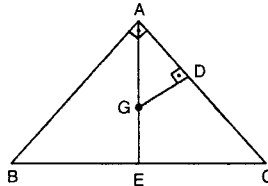
A) 10 B) 12 C) 14 D) 15 E) 17

4. Şekildeki ABC
üçgeninde
 $m(\hat{A}) = 90^\circ$, $[DC]$ ve
 $[BE]$ kenarortaydır.
 $IBCI = 8$ br ise
 **$IDCI^2 + IBEI^2$
toplamı kaç br²dir?**



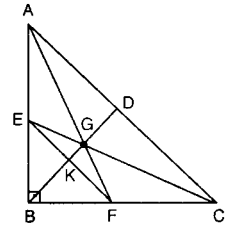
A) 40 B) 58 C) 60 D) 64 E) 80

5. ABC ikizkenar dik
üçgen ve G ağırlık
merkezi.
 $IADI = 2\sqrt{2}$ br ise
 $IBCI$ kaç br'dir?



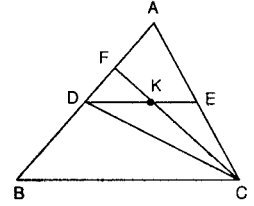
A) 4 B) $3\sqrt{2}$ C) 6 D) $5\sqrt{2}$ E) 12

6. Şekildeki ABC üçgeninde
 $m(\hat{ABC}) = 90^\circ$ ve G ağırlık
merkezi. $IGKI = 1$ br
ise **$IEFI$ kaç br'dir?**



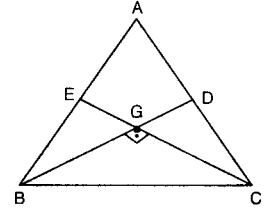
A) 2 B) 4 C) 6 D) 8 E) 10

7. Şekildeki üçgende
 $IADI = IDBI$,
 $IAFI = IFDI$,
 $IAEI = IECI$ ve
 $IKEI = 2$ br ise
 $IBCI$ kaç br'dir?



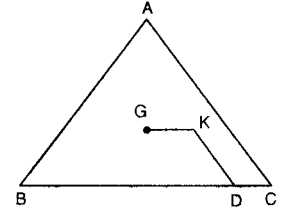
A) $4\sqrt{2}$ B) 6 C) $6\sqrt{2}$
D) 8 E) 12

8. Şekildeki üçgende
 $IABI = IACI$,
G ağırlık merkezi ve
 $[BG] \perp [GC]$ dir.
 $IGDI = \sqrt{2}$ br ise
 $IABI$ kaç br'dir?



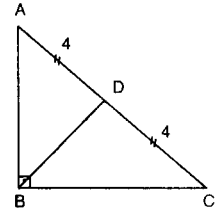
A) 2 B) $2\sqrt{10}$ C) $4\sqrt{5}$
D) $4\sqrt{10}$ E) $6\sqrt{5}$

9. Şekildeki ABC
üçgeninde G ağırlık
merkezi $[GK] \parallel [BC]$,
 $[KD] \parallel [AC]$,
 $IGKI = 4$ br,
 $IKDI = 10$ br ve
 $IDCI = 8$ br ise
 $IACI + IBCI$ kaç br'dir?



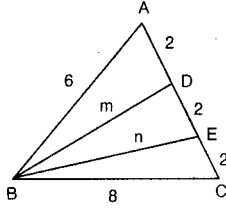
A) 44 B) 66 C) 72 D) 76 E) 80

10. Şekilde $m(\hat{ABC}) = 90^\circ$
 $[BD]$ kenarortay,
 $IADI = IDCI = 4$ br,
 $V_a \cdot V_c = 8$ br² ise **$V_a + V_c$
toplamı kaç br'dir?**



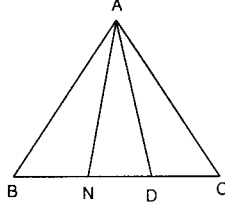
A) 4 B) $4\sqrt{2}$ C) $4\sqrt{3}$
D) 8 E) $4\sqrt{6}$

11. ABC üçgeninde
 $|AB| = 6$ br,
 $|BC| = 8$ br,
 $|AD| = |DE| = |EC| = 2$ br,
 $|BD| = m$ br ve
 $|BE| = n$ br ise
 $m^2 + n^2$ kaç br^2 'dir?



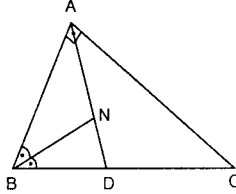
- A) 76 B) 78 C) 82 D) 84 E) 88

12. Şekildeki üçgende
 $[AN]$ açıortay $[AD]$
kenarortay, $\frac{|AB|}{|AC|} = \frac{2}{3}$ ve
 $|ND| = 3$ br ise $|BC|$ kaç
br'dir?



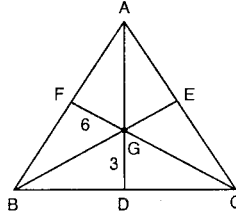
- A) 12 B) 15 C) 18 D) 24 E) 30

13. Şekilde $m(\hat{BAC}) = 90^\circ$,
 $[BN]$ açıortay ve $[AD]$
kenarortaydır.
 $|BC| = 12$ br ve
 $|AN| = \frac{18}{5}$ br ise
 $|AB|$ kaç br'dir?



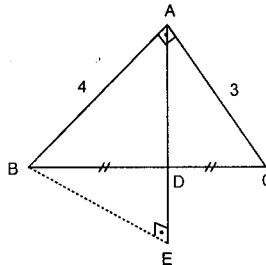
- A) 6 B) 8 C) 9 D) 10 E) 11

14. Şekildeki ABC
üçgeninde G ağırlık
merkezi.
 $|GF| = 6$ cm,
 $|GD| = 3$ cm ve
 $|AC| = 10\sqrt{2}$ cm ise
 $|BG|$ kaç cm'dir?



- A) $\sqrt{10}$ B) 4 C) $2\sqrt{10}$
D) $3\sqrt{10}$ E) $4\sqrt{10}$

15. Şekildeki üçgende,
 $[AB] \perp [AC]$,
 $[BE] \perp [AE]$ dir.
 $|BD| = |DC|$
 $|AB| = 4$ br ve
 $|AC| = 3$ br ise
 $|BE|$ kaç cm'dir?



- A) 2,2 B) 2,4 C) 3,6 D) 4,8 E) 5

16. ABC üçgeninde

$$m(\hat{A}) = 90^\circ,$$

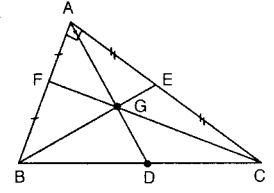
$$|AF| = |FB|,$$

$$|AE| = |EC|,$$

$$|AB| = 5 \text{ cm ve}$$

$$|AC| = 12 \text{ cm ise}$$

$$|AG| \text{ kaç cm'dir?}$$



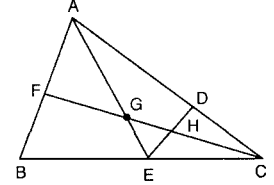
- A) $\frac{13}{5}$ B) $\frac{13}{3}$ C) $\frac{26}{5}$ D) $\frac{13}{2}$ E) $\frac{26}{3}$

17. ABC üçgeninde G
ağırlık merkezidir.

$$[DE] \parallel [AB] \text{ ve}$$

$$|HG| = 4 \text{ cm ise}$$

$$|HC| \text{ kaç cm'dir?}$$



- A) 12 B) 16 C) 18 D) 20 E) 24

18. ABC üçgeninde

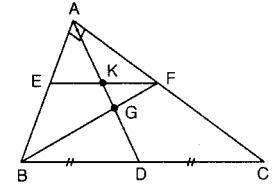
$$m(\hat{BAC}) = 90^\circ,$$

$$G \text{ ağırlık merkezi ve}$$

$$[EF] \parallel [BC] \text{ ve}$$

$$|EK| = 6 \text{ cm ise}$$

$$|KG| \text{ kaç cm'dir?}$$



- A) $\frac{3}{2}$ B) 2 C) $\frac{5}{2}$ D) 3 E) $\frac{7}{2}$

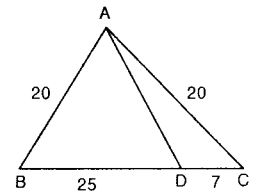
19. Şekilde

$$|AB| = |AC| = 20 \text{ br,}$$

$$|BD| = 25 \text{ br ve}$$

$$|DC| = 7 \text{ br ise}$$

$$|AD| \text{ kaç br'dir?}$$



- A) 10 B) 12 C) 13 D) 14 E) 15

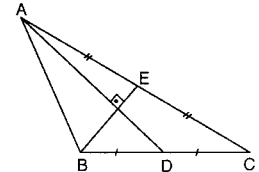
20. Şekildeki üçgende

$$[AD] \perp [BE],$$

$$|AE| = |EC| = 4 \text{ br ve}$$

$$|BD| = |DC| = 2\sqrt{6} \text{ br}$$

$$\text{ise } |AB| \text{ kaç br'dir?}$$



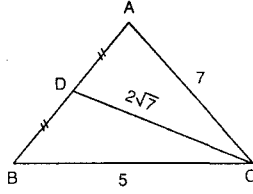
- A) 4 B) 5 C) $4\sqrt{2}$
D) 6 E) $5\sqrt{2}$

ÜÇGENDE KENARORTAY

TEST

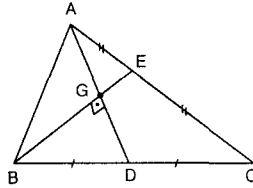
3

1. Şekildeki üçgende
 $ADI = IDBI$,
 $IACI = 7$ br,
 $IBCI = 5$ br ve
 $IDCI = 2\sqrt{7}$ br ise
 ABI kaç br'dir?

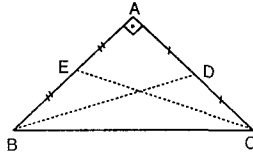


A) 4 B) 5 C) 6 D) 7 E) 8

2. Şekildeki üçgende
 $[AD] \perp [BE]$, G ağırlık
 merkezi $IACI = 6$ br
 ve $IBCI = 8$ br ise
 ABI kaç br'dir?

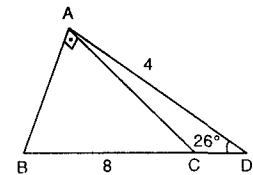
A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $3\sqrt{5}$
D) $4\sqrt{5}$ E) $5\sqrt{5}$

3. ABC üçgeninde
 $m(\hat{A}) = 90^\circ$,
 D ve E noktaları bu-
 lundukları kenarların
 orta noktalarıdır.
 $IBDI = 2\sqrt{5}$ br ve $ICEI = 5$ br ise $IBCI$ kaç br'dir?



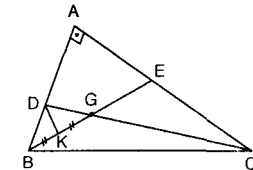
A) 6 B) 7 C) 8 D) 9 E) 10

4. Şekildeki üçgende
 $m(\hat{BAC}) = 90^\circ$,
 $m(\hat{BDA}) = 26^\circ$,
 $IBCI = 8$ br ve
 $IADI = 4$ br ise
 $m(\hat{CAD})$ kaç derecedir?



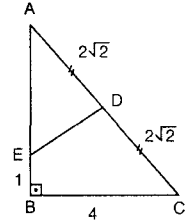
A) 39 B) 45 C) 47 D) 51 E) 52

5. Şekilde $m(\hat{A}) = 90^\circ$,
 G ABC üçgeninin
 ağırlık merkezi,
 $IBKI = IKGI$ ve
 $IDKI = 5$ br ise $IBCI$
 kaç br'dir?

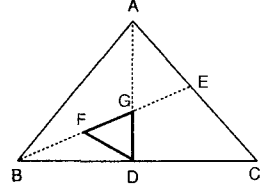


A) 10 B) 15 C) 20 D) 25 E) 30

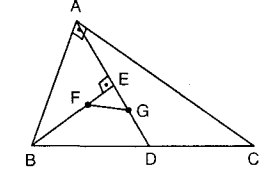
6. ABC üçgeninde
 $m(\hat{B}) = 90^\circ$,
 $IADI = IDCI = 2\sqrt{2}$ br,
 $IBEI = 1$ br ve
 $IBCI = 4$ br ise
 $IEDI$ kaç br'dir?

A) 2 B) $\sqrt{5}$ C) $2\sqrt{2}$ D) $2\sqrt{5}$ E) $5\sqrt{2}$

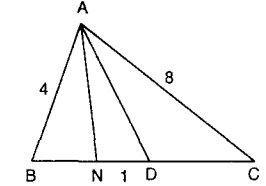
7. ABC eşkenar üçgen
 $[FD] \parallel [AC]$ ve G,
 Δ
 ABC'nin ağırlık mer-
 kezdur.
 $IFDI = 4$ br ise $IBEI$
 kaç br'dir?

A) $2\sqrt{3}$ B) 4 C) $4\sqrt{3}$ D) $4\sqrt{6}$ E) $8\sqrt{3}$

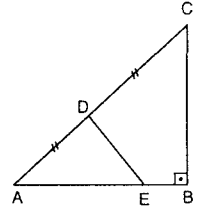
8. Şekilde $[AB] \perp [AC]$,
 $[BE] \perp [AD]$, G ABC
 üçgeninin ve F ABD
 üçgeninin ağırlık mer-
 kezdur.
 Buna göre $\frac{IFGI}{IBDI}$ oranı
 nedir?

A) $\frac{1}{6}$ B) $\frac{1}{3}$ C) $\frac{3}{5}$ D) $\frac{2}{3}$ E) $\frac{5}{6}$

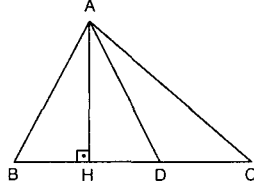
9. Şekildeki ABC
 üçgeninde $[AN]$
 açıortay, $[AD]$ kenaror-
 taydır. $IABI = 4$ br,
 $IACI = 8$ br ve
 $INDI = 1$ br ise
 $IADI$ kaç br'dir?

A) $\sqrt{31}$ B) $\sqrt{29}$ C) $9\sqrt{3}$ D) 4 E) 3

10. ABC dik üçgeninde
 $IBCI = 4\sqrt{7}$ br, $IAEI = 8$ br,
 $IBEI = 4$ br ve $IADI = IDCI$ ise
 $IDEI$ kaç br'dir?

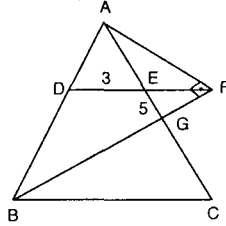
A) 2 B) 4 C) $4\sqrt{2}$ D) 6 E) $4\sqrt{3}$

11. ABC üçgeninde
 $|ADI| = |BDI| = |DCI|$,
 $[AH] \perp [BC]$,
 $|AB| = 6$ br ve
 $|AC| = 8$ br ise
 $|IHD|$ kaç br'dir?



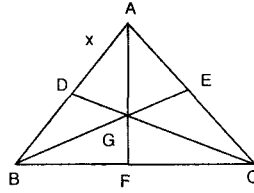
A) 1 B) 1,2 C) 1,3 D) 1,4 E) 2

12. Şekilde $m(\hat{AFB}) = 90^\circ$,
E, AFB üçgeninin ağırlık
merkezi.
 $[DF] \parallel [BC]$,
 $|AE| = |EC|$,
 $|DE| = 3$ br
 $|EG| = 5$ br ise **ABC**
üçgeninin çevresi kaç
br'dir?



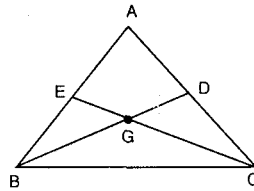
A) 44 B) 48 C) 50 D) 52 E) 54

13. Şekildeki üçgenin
ağırlık merkezi G'dir.
 $|AF| = 15$ cm,
 $|BE| = 9$ cm,
 $|CD| = 12$ cm ise
 $|ADI| = x$ kaç cm'dir?



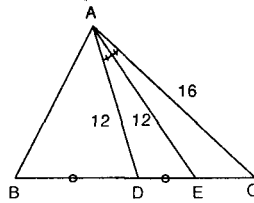
A) $\frac{\sqrt{3}}{2}$ B) $\sqrt{3}$ C) $4\sqrt{3}$
D) $2\sqrt{13}$ E) $3\sqrt{13}$

14. Şekildeki ABC
üçgeninde G ağırlık
merkezi.
 $[AB] \perp [AC]$
 $|GD| = 3$ cm ve
 $|EG| = 4$ cm ise
 $|BC|$ kaç cm'dir?



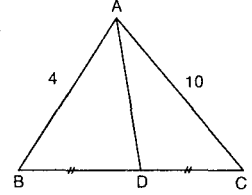
A) 8 B) 10 C) $4\sqrt{5}$ D) $5\sqrt{5}$ E) $6\sqrt{5}$

15. Şekilde $[AE]$, $\hat{DAC}$ nin
açıortayı,
 $|BD| = |DE|$
 $|AD| = |AE| = 12$ br ve
 $|AC| = 16$ br ise
 $|AB| = x$ kaç br'dir?



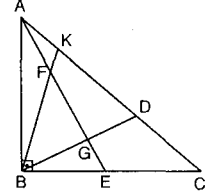
A) 6 B) 8 C) $8\sqrt{2}$ D) $6\sqrt{6}$ E) $8\sqrt{6}$

16. ABC üçgeninde
 $[AD]$ kenarortay,
 $|AB| = 4$ br ve
 $|AC| = 10$ br ise
 $|ADI|$ kaç tamsayı
değeri alabilir?



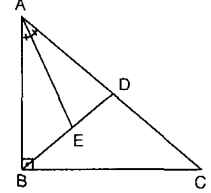
A) 2 B) 3 C) 4 D) 5 E) 6

17. ABC üçgeninde
G ağırlık merkezi,
 $|AE| = 3|AF|$ ve
 $|BG| = 6$ br ise
 $|AKI|$ kaç br'dir?



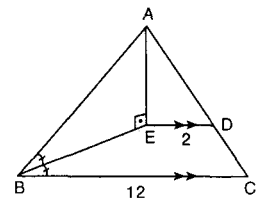
A) 2 B) $\frac{12}{5}$ C) 3 D) $\frac{18}{5}$ E) 6

18. ABC dik üçgeninde
 $[BD]$ kenarortay,
 $[AE]$ açıortay,
 $|AB| = 12$ cm ve
 $|BC| = 16$ cm ise
 $|IED|$ uzunluğu kaç cm'dir?



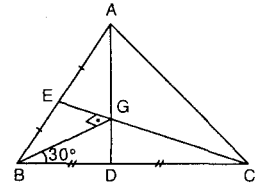
A) $\frac{50}{11}$ B) 5 C) $\frac{60}{11}$ D) 6 E) $\frac{70}{11}$

19. Şekilde $[BE] \perp [AE]$,
 $[BE]$ açıortay,
 $[ED] \parallel [BC]$,
 $|BC| = 12$ br ve
 $|ED| = 2$ br ise
 $|ABI|$ kaç br'dir?



A) 8 B) 9 C) 10 D) 11 E) 12

20. ABC üçgeninde
G ağırlık merkezi
 $[BG] \perp [EC]$,
 $m(\hat{GBD}) = 30^\circ$ ve
 $|AG| = 8$ br ise
 $|GEI|$ kaç br'dir?

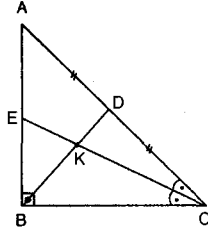


A) 2 B) 3 C) 4 D) 5 E) 6

ÜÇGENDE KENARORTAY

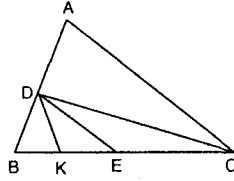
TEST 4

1. ABC üçgeninde
 $m(\hat{A}) = 90^\circ$,
 [BD] kenarortay,
 [CE] açıortaydır.
 $|BC| = 16$ cm ve
 $|BK| = 8$ cm ise
|KD| kaç cm'dir?



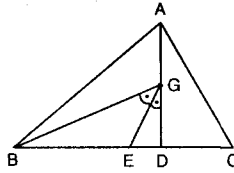
A) 4 B) 6 C) 8 D) 10 E) 12

2. Şekildeki ABC üçgeninde D ve E sırasıyla [AB] ve [BC] nin orta noktalarıdır. $|BK| = |KE|$, $|AB| = 14$ br, $|AC| = 22$ br ve $|BC| = 24$ br ise $\hat{C}(\text{DBK})$ kaç br'dir?



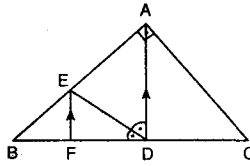
A) 16 B) 20 C) 21 D) 22 E) 24

3. ABC üçgeninde G ağırlık merkezi, [GE] açıortay, $|AD| = 2|BG|$ ve $|BC| = 10$ br ise **|ED| kaç br'dir?**



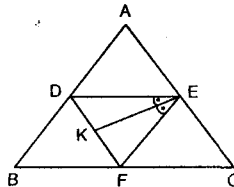
A) 1 B) 2 C) 3 D) 4 E) 5

4. ABC üçgeninde [AD] kenarortay, [DE] açıortay, $|AB| = 30$ br ve $|AC| = 16$ br ise $\hat{C}(\text{BEF})$ kaç br'dir?



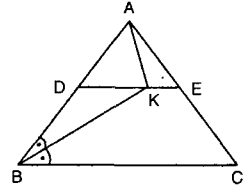
A) 21 B) 25 C) 32 D) 35 E) 40

5. Şekildeki üçgende, D, E, F orta noktalar, [EK] açıortay, $|BC| = 8$ br, $|AB| = 12$ br ve $|AC| = 10$ br ise **|KE| kaç br'dir?**



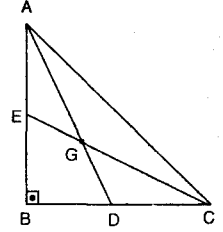
A) 3 B) 4 C) $3\sqrt{2}$ D) $4\sqrt{2}$ E) 6

6. ABC üçgeninde D ve E orta noktalar, [BK] açıortay, $|KE| = 1$ br, $|BC| = 12$ br ise **|BD| kaç br'dir?**



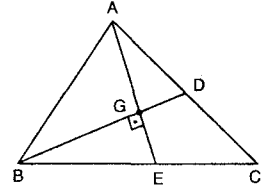
A) 5 B) 6 C) 7 D) 8 E) 9

7. ABC üçgeninde $m(\hat{B}) = 90^\circ$ ve $|AC| = 12$ br ise **$|AG|^2 + |GC|^2$ toplamı kaç br²dir?**



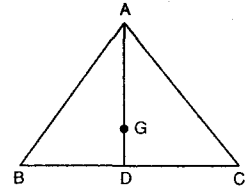
A) 80 B) 96 C) 100 D) 120 E) 144

8. Şekildeki ABC üçgeninde G ağırlık merkezi, $[AE] \perp [BD]$, $|BC| = 8$ br ve $|AC| = 6$ br ise **|AB| kaç br'dir?**



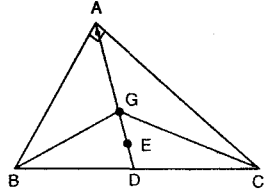
A) 2 B) $2\sqrt{5}$ C) $3\sqrt{3}$ D) $5\sqrt{3}$ E) $4\sqrt{5}$

9. Şekildeki ABC üçgeninde G ağırlık merkezi, $|GD| = \frac{5}{3}$ br, $|AB| = 6$ br ve $|AC| = 8$ br ise **$m(\hat{A})$ kaç derecedir?**



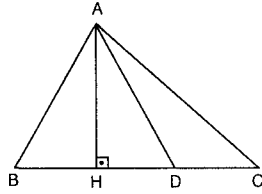
A) 30 B) 45 C) 60 D) 75 E) 90

10. Şekilde $m(\hat{BAC}) = 90^\circ$ G, ABC üçgeninin ağırlık merkezi, E, BGC üçgeninin ağırlık merkezi ve $|GE| = 2$ br ise **|AB| + |AC| nin alabileceği en küçük tamsayı değeri nedir?**



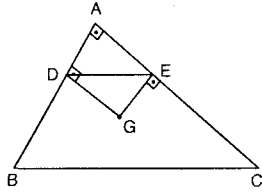
A) 17 B) 18 C) 19 D) 20 E) 21

11. Şekildeki ABC üçgeninin çevresi 18 br'dir. [AH] yükseklik, [AD] kenarortay, $IBC I = 6$ br ve $IHD I = 2$ br ise **IAHI kaç br'dir?**



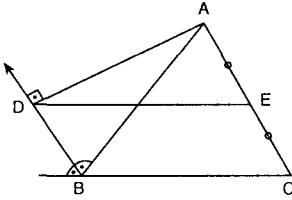
- A) $2\sqrt{6}$ B) $2\sqrt{7}$ C) $3\sqrt{6}$
D) $3\sqrt{7}$ E) 4

12. Şekildeki ABC üçgeninin ağırlık merkezi G'dir. $[AC] \perp [AB]$, $[GE] \perp [AC]$, $[GD] \perp [AB]$ ve $IBC I = 18$ br ise **IDEI kaç br'dir?**



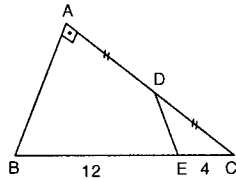
- A) 6 B) $6\sqrt{2}$ C) 9 D) $9\sqrt{2}$ E) 10

13. Şekildeki ABC üçgeninde $[BD]$ dış açıortay, $[AD] \perp [BD]$, $IBC I = 10$ br ve $IED I = 9$ br ise **IABI kaç br'dir?**



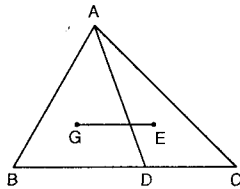
- A) 8 B) 9 C) 10 D) 11 E) 12

14. ABC üçgeninde $m(\hat{A}) = 90^\circ$, $IAS I = IDC I$, $IECI = 4$ br ve $IBEI = 12$ br ise **IDEI kaç br'dir?**



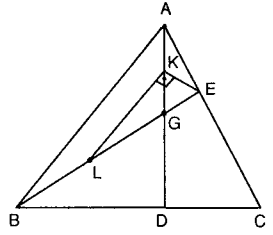
- A) 2 B) 3 C) 4 D) 5 E) 6

15. Şekilde G, ABD üçgeninin E, ADC üçgeninin ağırlık merkezidir. $IGE I = \frac{2}{3}$ br ise **IBC I kaç br'dir?**



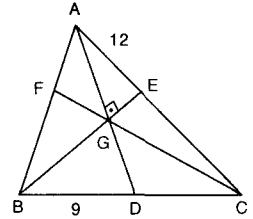
- A) 2 B) $\frac{8}{3}$ C) 3 D) $\frac{10}{3}$ E) 4

16. Şekildeki ABC üçgeninde G noktası ağırlık merkezi, $[KE] \perp [KL]$, $IAKI = IKGI$, $IBLI = IGLI$ ve $IBLI = 2$ br ise **IASI kaç br'dir?**



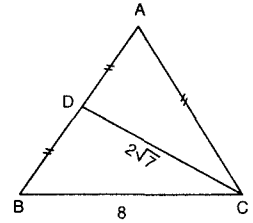
- A) 4 B) 5 C) 6 D) 8 E) 10

17. Şekildeki ABC üçgeninde G ağırlık merkezi, $[AD] \perp [BE]$, $IAEI = 12$ br ve $IBDI = 9$ br ise **ICFI kaç br'dir?**



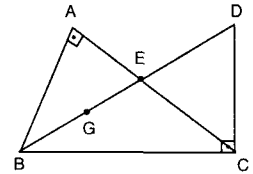
- A) $6\sqrt{3}$ B) 8 C) 10 D) $6\sqrt{5}$ E) $9\sqrt{5}$

18. Şekilde $IAS I = IBD I = IAC I$, $ICDI = 2\sqrt{7}$ br ve $IBC I = 8$ br ise **IABI kaç br'dir?**



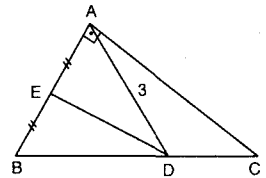
- A) $2\sqrt{5}$ B) $3\sqrt{2}$ C) $4\sqrt{2}$
D) $5\sqrt{2}$ E) $6\sqrt{2}$

19. ABC ikizkenar dik üçgen, G ABC üçgeninin ağırlık merkezi, $[DC] \perp [BC]$ ve $IBC I = 12\sqrt{2}$ br ise **IEDI kaç br'dir?**



- A) $2\sqrt{5}$ B) $3\sqrt{5}$ C) $6\sqrt{2}$
D) $4\sqrt{5}$ E) 12

20. Şekildeki ABC üçgeninde $m(\hat{BAC}) = 90^\circ$, $IAEI = IEBI$, $IBC I = 4IDCI$ ve $IAS I = 3$ br ise **IEDI kaç br'dir?**



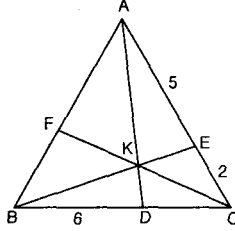
- A) 2 B) 3 C) 4 D) 5 E) 6

ÜÇGENDE KESEN TEOREMLERİ

TEST

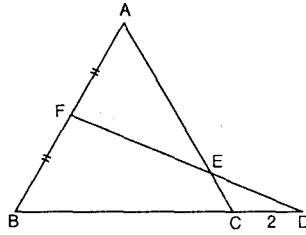
1

1. ABC üçgeninde,
 $5|FB| = 3|AF|$,
 $|BD| = 6$ br,
 $|EC| = 2$ br ve
 $|AE| = 5$ br ise,
 $|DC|$ kaç br dir?



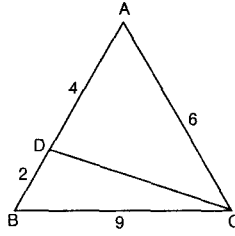
A) 2 B) 3 C) 4 D) 5 E) 6

2. Şekilde,
 $|AF| = |FB|$,
 $|AC| = 4|EC|$ ve
 $|CD| = 2$ ise,
 $|BC|$ kaç br dir?



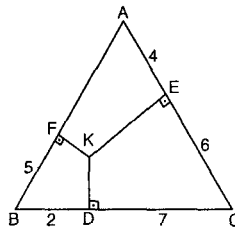
A) 2 B) 3 C) 4 D) 5 E) 6

3. Şekilde,
 $|AC| = 6$ br,
 $|BC| = 9$ br,
 $|BD| = 2$ br ve
 $|AD| = 4$ br ise,
 $|DC|$ kaç br dir?



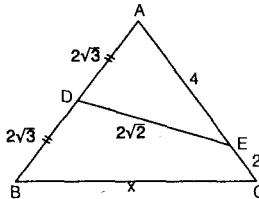
A) $\sqrt{33}$ B) $\sqrt{37}$ C) $2\sqrt{11}$
D) $\sqrt{51}$ E) $\sqrt{58}$

4. Şekildeki üçgende,
 $|KE| \perp |AC|$,
 $|KF| \perp |AB|$,
 $|KD| \perp |BC|$ dir.
 $|BF| = 5$ br,
 $|BD| = 2$ br,
 $|DC| = 7$ br,
 $|EC| = 6$ br ve
 $|AE| = 4$ br ise,
 $|AF|$ kaç br dir?



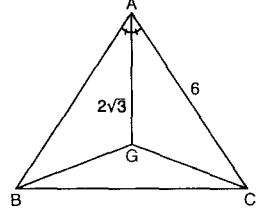
A) 4 B) 5 C) $4\sqrt{2}$
D) $5\sqrt{2}$ E) $5\sqrt{3}$

5. Şekildeki üçgende,
 $|AD| = |DB| = 2\sqrt{3}$ br,
 $|AE| = 2|EC| = 4$ br
ve $|DE| = 2\sqrt{2}$ br ise,
 $|BC| = x$ kaç br dir?



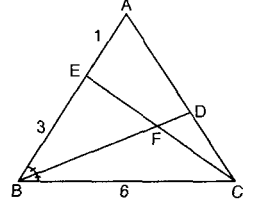
A) $2\sqrt{2}$ B) $2\sqrt{3}$ C) 4
D) $2\sqrt{5}$ E) $2\sqrt{6}$

6. ABC üçgeninde,
G noktası ağırlık merkezi ve
 $[AG]$ açıortaydır.
 $|AC| = 6$ br ve
 $|AG| = 2\sqrt{3}$ br ise,
 $|GC|$ kaç br dir?



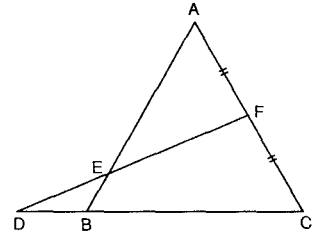
A) 2 B) $2\sqrt{2}$ C) 3
D) $2\sqrt{3}$ E) 4

7. Şekildeki üçgende,
 $[BD]$ açıortay,
 $|AE| = 1$ br,
 $|BE| = 3$ br ve
 $|BC| = 6$ br ise,
 $\frac{|FD|}{|BF|}$ oranı nedir?



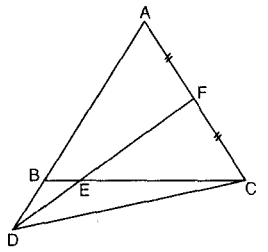
A) $\frac{1}{5}$ B) $\frac{2}{5}$ C) $\frac{3}{5}$ D) $\frac{4}{5}$ E) 1

8. ABC eşkenar üçgen,
 $|AF| = |FC|$,
 $|BE| = 2$ br ve
 $|AE| = 6$ br ise,
 $|DE|$ kaç br dir?



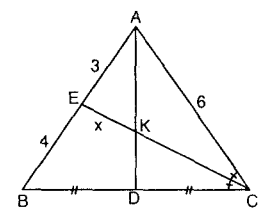
A) $2\sqrt{3}$ B) $2\sqrt{5}$ C) 5
D) $2\sqrt{7}$ E) 6

9. ABC eşkenar üçgen,
 $|AF| = |FC|$,
 $|BE| = 3$ br ve
 $|EC| = 6$ br ise,
 $|BD|$ kaç br dir?



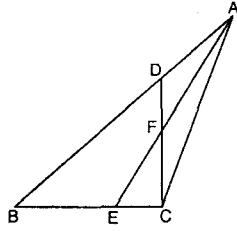
A) 6 B) 7 C) 8 D) 9 E) 10

10. Şekildeki üçgende,
 $[EC]$ açıortay ve
 $[AD]$ kenarortaydır.
 $|AE| = 3$ br,
 $|EB| = 4$ br ve
 $|AC| = 6$ br ise,
 $|KE|$ kaç br dir?



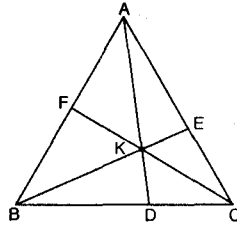
A) $\frac{6}{5}$ B) $\frac{7}{5}$ C) $\frac{8}{5}$ D) $\frac{9}{5}$ E) 2

11. Şekildeki üçgende,
 $|AB| = 4|AD|$ ve
 $3|BE| = 4|EC|$ ise,
 $\frac{|DF|}{|FC|}$ oranı nedir?



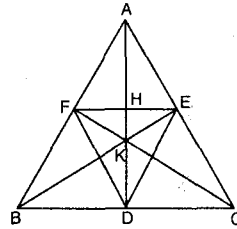
- A) $\frac{1}{3}$ B) $\frac{2}{3}$ C) 1 D) $\frac{3}{2}$ E) 2

12. Şekildeki üçgende K iç-
teğet çemberinin mer-
kezi,
 $|AF| = \frac{1}{2}$ br,
 $|BF| = \frac{3}{2}$ br ve
 $|BD| = 1$ br ise,
 $|DC|$ kaç br dir?



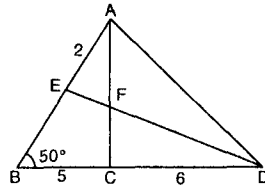
- A) 1 B) 2 C) 3 D) 4 E) 5

13. Şekildeki üçgende,
K diklik merkezi,
 $|FE| = 18$ br,
 $|DE| = 15$ br ve
 $|FD| = 12$ br ise,
 $|DH|$ kaç br dir?



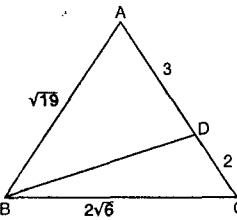
- A) 6 B) 7 C) 8 D) 9 E) 10

14. ABC üçgeninde,
 $m(\hat{ABC}) = 50^\circ$,
 $|ED| = 4|EF|$,
 $|CD| = 6$ br,
 $|AE| = 2$ br ve
 $|BC| = 5$ br ise,
 $m(\hat{BCA})$ kaç derecedir?



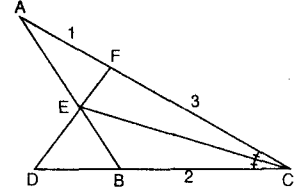
- A) 50 B) 55 C) 60 D) 65 E) 70

15. Şekildeki üçgende,
 $|AB| = \sqrt{19}$ br,
 $|BC| = 2\sqrt{6}$ br,
 $|AD| = 3$ br ve
 $|DC| = 2$ br ise,
 $|BD|$ kaç br dir?



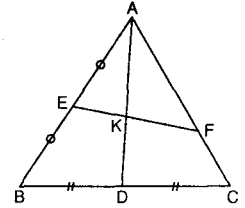
- A) 2 B) 3 C) 4 D) 5 E) 6

16. Şekilde,
 $[CE]$, $\hat{ACB}$ nin
açıortayıdır.
 $|AF| = 1$ br,
 $|FC| = 3$ br ve
 $|BC| = 2$ br ise,
 $\frac{|DE|}{|EF|}$ oranı nedir?



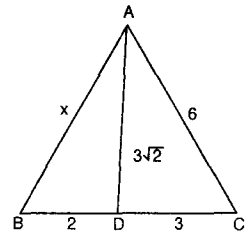
- A) $\frac{3}{4}$ B) $\frac{4}{5}$ C) $\frac{5}{4}$ D) $\frac{4}{3}$ E) $\frac{8}{5}$

17. ABC üçgeninde,
 $|AE| = |EB|$,
 $|BD| = |DC|$,
 $|AC| = 4|FC|$ ve
 $|AD| = 15$ br ise,
 $|KD|$ kaç br dir?



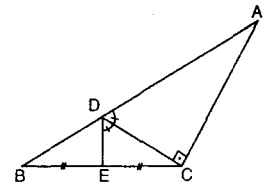
- A) 3 B) 4 C) 5 D) 6 E) 7

18. Şekildeki üçgende,
 $|AC| = 6$ br,
 $|BD| = 2$ br,
 $|DC| = 3$ br,
 $|AD| = 3\sqrt{2}$ ise
 $|AB| = x$ kaç br dir?



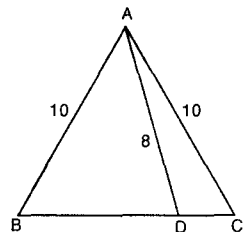
- A) $2\sqrt{2}$ B) $2\sqrt{3}$ C) 4
D) $3\sqrt{2}$ E) 6

19. Şekildeki üçgende,
 $[DC]$, $\hat{EDA}$ nın açıor-
tayı olup
 $[DC] \perp [AC]$ dir.
 $|BE| = |EC|$ ve
 $|AB| = 24$ br ise,
 $|DE|$ kaç br dir?



- A) 3 B) 4 C) 5 D) 6 E) 8

20. Şekildeki üçgende,
 $|AB| = |AC| = 10$ br ve
 $|AD| = 8$ br ise,
 $|CD| \cdot |BD|$ kaç br² dir?

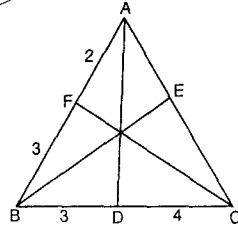


- A) 32 B) 36 C) 40 D) 44 E) 48

ÜÇGENDE KESEN TEOREMLERİ

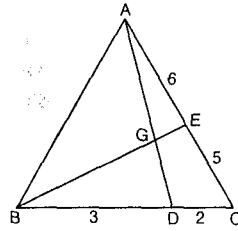
TEST 2

1. ABC üçgeninde,
 $IAFI = 2$ br,
 $IBFI = IBDI = 3$ br ve
 $IDCI = 4$ br ise,
 $\frac{IECI}{IAEI}$ oranı nedir?



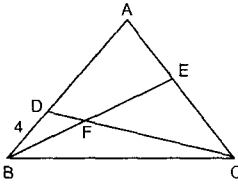
A) 1 B) 2 C) 3 D) 4 E) 5

2. ABC üçgeninde,
 $IAEI = 6$ br,
 $IECI = 5$ br,
 $IDCI = 2$ br ve
 $IBDI = 3$ br ise,
 $\frac{IGDI}{IADI}$ oranı nedir?



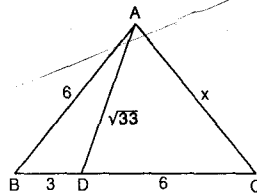
A) $\frac{1}{4}$ B) $\frac{1}{3}$ C) $\frac{3}{5}$ D) $\frac{2}{3}$ E) $\frac{5}{6}$

3. Şekildeki üçgende,
 $IAEI = \frac{IACI}{3}$,
 $IBFI = IFEI$ ve
 $IBDI = 4$ cm ise,
 $IADI$ kaç cm dir?



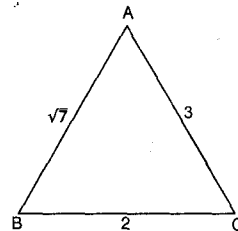
A) 4 B) 5 C) 6 D) 8 E) 9

4. ABC üçgeninde,
 $IABI = IDCI = 6$ br,
 $IBDI = 3$ br ve
 $IADI = \sqrt{33}$ ise,
 $IACI$ kaç br dir?



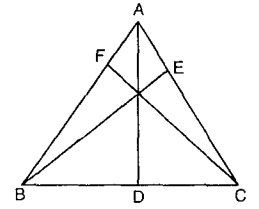
A) 5 B) 6 C) 7 D) 8 E) 9

5. ABC üçgeninde,
 $IABI = \sqrt{7}$ br,
 $IACI = 3$ br ve
 $IBCI = 2$ br ise,
 $m(\hat{ACB})$ kaç derecedir?



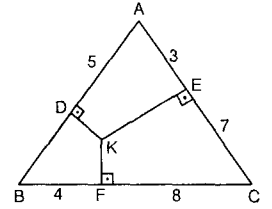
A) 15° B) 30° C) 45° D) 60° E) 75°

6. ABC üçgeninde,
 $IAFI = x - 2$ br,
 $IBFI = 2x + 2$ br,
 $IBDI = 3x + 3$ br,
 $IDCI = 2x + 4$ br ve
 $2IECI = 3IAEI$ ise,
 x kaçtır?



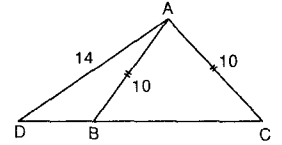
A) 34 B) 35 C) 36 D) 37 E) 38

7. ABC üçgeninde,
 $[KD] \perp [AB]$,
 $[KF] \perp [BC]$,
 $[KE] \perp [AC]$ dir.
 $IADI = 5$ br,
 $IAEI = 3$ br,
 $IECI = 7$ br,
 $IFCI = 8$ br ve $IBFI = 4$ br ise,
 $IBDI$ kaç br dir?



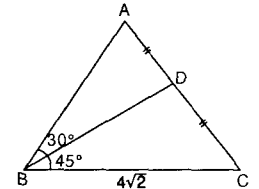
A) $\sqrt{15}$ B) 4 C) $\sqrt{17}$
D) $3\sqrt{2}$ E) $\sqrt{19}$

8. Şekilde,
 $IABI = IACI = 10$ br
ve
 $IADI = 14$ br ise,
 $IBDI \cdot ICDI$ çarpımı
kaç br² dir?



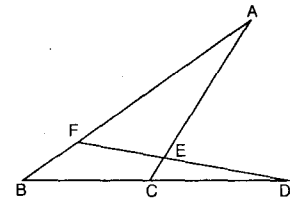
A) 48 B) 60 C) 80 D) 96 E) 108

9. ABC üçgeninde,
 $m(\hat{ABD}) = 30^\circ$,
 $m(\hat{DBC}) = 45^\circ$ dir.
 $IADI = IDCI$ ve
 $IBCI = 4\sqrt{2}$ br ise,
 $IABI$ kaç br dir?



A) 6 B) $5\sqrt{2}$ C) 6 D) 8 E) $6\sqrt{2}$

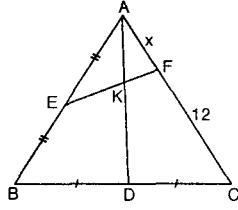
10. Şekilde,
 $IBDI = 3IBCI$,
 $IAEI = 6IECI$ ve
 $IAFI = 4$ br ise,
 $IABI$ kaç br dir?



A) 1 B) 2 C) 3 D) 4 E) 5

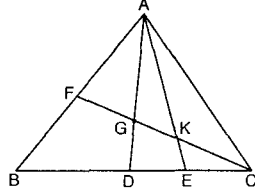
ZAFER YAYINLARI

11. Şekilde,
 $IAEI = IEBI$,
 $IBDI = IDCI$,
 $3IAKI = 2IKDI$ ve
 $IFCI = 12$ br ise,
 $IAFI$ kaç br dir?



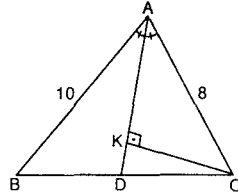
A) 9 B) 8 C) 6 D) 5 E) 3

12. ABC üçgeninde,
 G ağırlık merkezi,
 $IGCI = 4IKGI$ ve
 $IBDI = 15$ br ise,
 $IEDI$ kaç br dir?



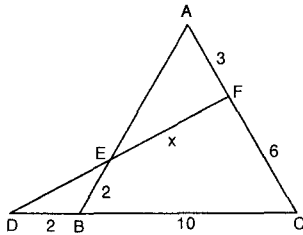
A) 3 B) 5 C) 7 D) 8 E) 9

13. ABC üçgeninde,
 $[AD]$ açıortay,
 $[CK] \perp [AK]$,
 $IABI = 10$ br,
 $IACI = 8$ br ise,
 $\frac{IAKI}{IKDI}$ oranı kaçtır?



A) 12 B) 11 C) 10 D) 9 E) 8

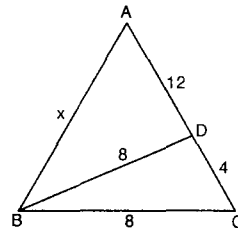
14.



Şekilde, $m(\widehat{BAC}) = m(\widehat{BCA}) + m(\widehat{FDC})$ dir.
 $IBDI = IBEI = 2$ br, $IAFI = 3$ br, $IFCI = 6$ br ve
 $IBC = 10$ br ise, $IEFI$ kaçtır?

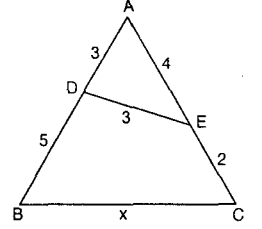
A) 4 B) $\frac{13}{3}$ C) 5 D) 6 E) $\frac{13}{2}$

15. ABC üçgeninde,
 $IBDI = IBCI = 8$ br,
 $IADI = 12$ br ve
 $IDCI = 4$ br ise,
 $IABI = x$ kaç br dir?



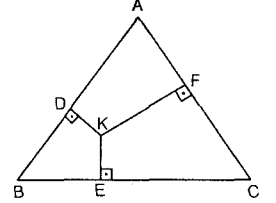
A) 16 B) 17 C) 18 D) 19 E) 20

16. Şekildeki üçgende,
 $IADI = IDEI = 3$ br,
 $IAEI = 4$ br,
 $IECI = 2$ br ve
 $IBDI = 5$ br ise,
 $IBCI$ kaç br dir?



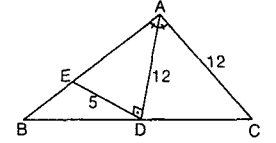
A) 6 B) 7 C) 8 D) 9 E) 10

17. ABC üçgeninde,
 $[KD] \perp [AB]$,
 $[KF] \perp [AC]$,
 $[KE] \perp [BC]$ dir.
 $IBEI = 4$ br,
 $IBDI = 4$ br,
 $ICFI = 6$ br,
 $IACI = 13$ br ve
 $IADI = 5$ br ise, $IECI$ kaç br dir?



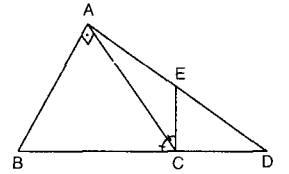
A) 2 B) $2\sqrt{2}$ C) 3 D) $2\sqrt{3}$ E) 4

18. ABC üçgeninde,
 $[AD]$ açıortay ve
 $[ED] \perp [AD]$ dir.
 $IADI = IACI = 12$ br ve
 $IEDI = 5$ br ise,
 $\frac{IDCI}{IBDI}$ oranı nedir?



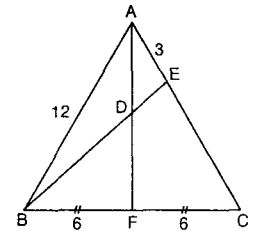
A) $\frac{5}{13}$ B) $\frac{7}{13}$ C) $\frac{9}{13}$ D) $\frac{10}{13}$ E) $\frac{11}{13}$

19. Şekilde,
 $[AC]$, $\widehat{BCE}$ nin açıortayı ve
 $[BA] \perp [CA]$ dir.
 $3IBDI = 5ICDI$ ve
 $ICEI = 3$ br ise,
 $IBCI$ kaç br dir?



A) 6 B) 8 C) 10 D) 12 E) 13

20. Şekilde
 $IABI = 12$ br,
 $IBFI = IFCI = 6$ br,
 $IAEI = 3$ br ve
 $3IADI = 2IDFI$ ise,
 $m(\widehat{ABC})$ kaç derecedir?



A) 15 B) 30 C) 45 D) 60 E) 75

DİK ÜÇGEN

TEST

1

1. ABC dik üçgeninde

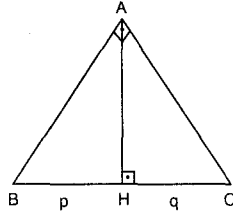
[AH] $\perp$ [BC],

IBHI = p,

IHCI = q ve

IBCİ = 2.IACİ ise

aşağıdakilerden hangisi doğrudur?



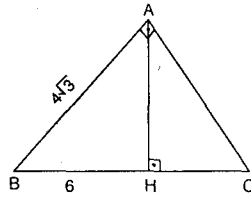
- A) $p = 2q$ B) $q = 2p$ C) $p = 3q$
D) $q = 3p$ E) $p = 8q$

2. ABC dik üçgeninde

[AH] $\perp$ [BC],IABI = $4\sqrt{3}$ br ve

IBHI = 6 br ise

IACİ kaç br'dir?



- A) 4 B) 5 C) 6 D) 7 E) 8

3. ABC üçgeninde

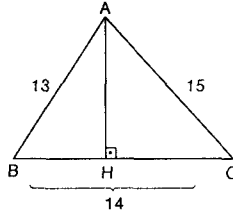
[AH] $\perp$ [BC],

IABI = 13 br,

IACİ = 15 br,

IBCİ = 14 br ise

IAHI kaç br'dir?



- A) 6 B) 8 C) 10 D) 12 E) 14

4. Şekildeki ABC dik üçgeninde

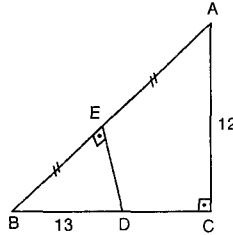
[ED] $\perp$ [AB],

IEBI = IEAI

IACİ = 12 br ve

IBDI = 13 br ise

IDCİ kaç br'dir?



- A) 4 B) 5 C) 6 D) 7 E) 8

5. ABC dik üçgeninde

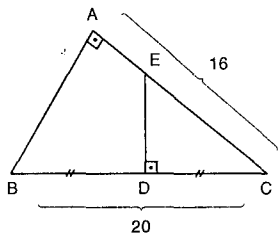
[ED] $\perp$ [BC],

IBDI = IDCİ

IBCİ = 20 br,

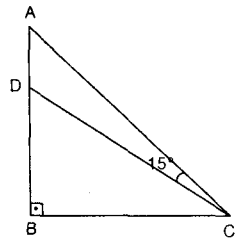
IACİ = 16 br ise

IEDİ kaç br'dir?



- A) $\frac{15}{2}$ B) 8 C) $\frac{17}{2}$ D) 9 E) $\frac{19}{2}$

6. ABC ikizkenar dik üçgeninde

 $m(\hat{ACD}) = 15^\circ$ veIDBI = $\sqrt{3}$ br ise
IACİ kaç br'dir?

- A) 3 B) $3\sqrt{2}$ C) 6 D) $6\sqrt{2}$ E) $6\sqrt{3}$

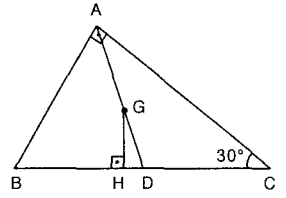
7. Şekilde ABC dik üçgen, G ağırlık merkezi, [GH]
- $\perp$
- [BC]

 $m(\hat{C}) = 30^\circ$

olduğuna göre;

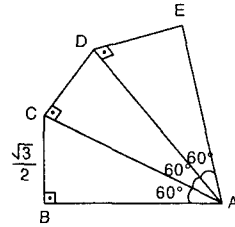
IDHI = 2 br ise

IBCİ kaç br'dir?



- A) 20 B) 22 C) 24 D) 26 E) 28

- 8.

Şekilde $m(\hat{CBA}) = m(\hat{DCA}) = m(\hat{EDA}) = 90^\circ$, $m(\hat{BAC}) = m(\hat{CAD}) = m(\hat{DAE}) = 60^\circ$ veIBCİ = $\frac{\sqrt{3}}{2}$ br ise IAEİ kaç br'dir?

- A) 2 B) 3 C) 4 D) 5 E) 6

9. ABC dik üçgeninde

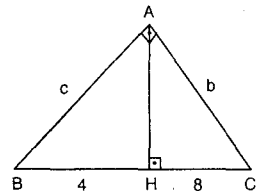
[AH] $\perp$ [BC]

IABI = c,

IACİ = b

IBHI = 4 br ve

IHCI = 8 br

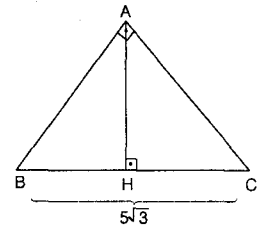
ise $\frac{b}{c}$ kaçtır?

- A) $\sqrt{2}$ B) 2 C) $2\sqrt{2}$ D) $\sqrt{3}$ E) $2\sqrt{3}$

10. Şekildeki ABC üçgeninde

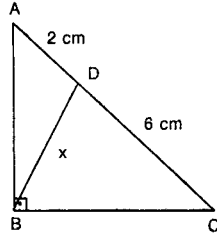
[AH] $\perp$ [BC], $m(\hat{A}) = 90^\circ$ dir.IBCİ = $5\sqrt{3}$ cm, $IBHI^2 + IHCI^2 = 25 \text{ cm}^2$

ise IAHİ kaç cm'dir?



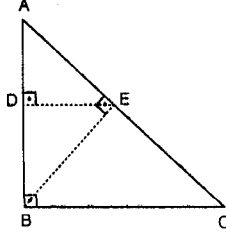
- A) 3 B) 5 C) $5\sqrt{3}$ D) 9 E) $9\sqrt{2}$

11. Şekilde ABC ikizkenar dik üçgen, $IAI = 2$ cm, $IDCI = 6$ cm ise $IBDI = x$ kaç cm'dir?



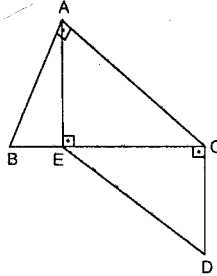
- A) $\frac{\sqrt{5}}{2}$ B) $\sqrt{5}$ C) $\frac{3\sqrt{5}}{2}$ D) $2\sqrt{5}$ E) $\frac{5\sqrt{5}}{2}$

12. Şekildeki ABC dik üçgeninde $[DE] \perp [AB]$ ve $m(\hat{AEB}) = 90^\circ$ dir. $IDEI = 2$ br ve $IBCI = 3$ br olduğuna göre $IACI$ kaç br'dir?



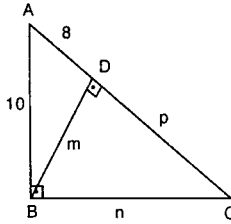
- A) $4\sqrt{2}$ B) 6 C) 8 D) $3\sqrt{3}$ E) $8\sqrt{2}$

13. Şekilde, ABC ve CED üçgenleri dik üçgenlerdir. $[AE] \perp [BC]$, $IBCI = ICDI$, $\Delta A(ECD) = 32$ br² ise $IACI$ kaç br'dir?



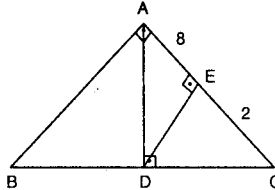
- A) 4 B) 6 C) 8 D) 16 E) 20

14. Şekilde, ABC dik üçgen, $[BD] \perp [AC]$ $IBI = 10$ br, $IAI = 8$ br, $IBDI = m$, $IDCI = p$ ve $IBCI = n$ ise $m + p + n$ kaç br'dir?



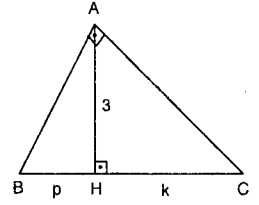
- A) 18 B) 19 C) 20 D) 22 E) 25

15. Şekilde ABC dik üçgen $[AD] \perp [BC]$, $[DE] \perp [AC]$ $IAEI = 8$ br, $IECI = 2$ br olduğuna göre IBI kaç br'dir?



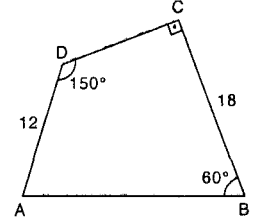
- A) $2\sqrt{5}$ B) $4\sqrt{5}$ C) 10 D) 12 E) 20

16. Şekilde ABC dik üçgeninde $[AH] \perp [BC]$ $IAHI = 3$ br $IBHI = p$, $IHCI = k$, $p^2 + k^2 = 46$ olarak veriliyor. $IBCI$ kaç br'dir?



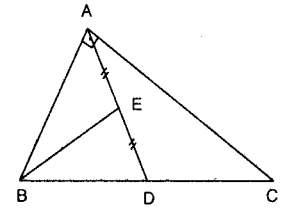
- A) 7 B) 8 C) 9 D) 10 E) 12

17. Şekilde $[BC] \perp [DC]$, $m(\hat{ADC}) = 150^\circ$, $m(\hat{CBA}) = 60^\circ$ dir. $IAI = 12$ cm, $IBCI = 18$ cm ise IBI kaç cm'dir?



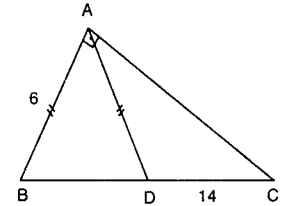
- A) 20 B) 22 C) 24 D) 25 E) 27

18. Şekilde ΔABD eşkenar üçgen $[AB] \perp [AC]$, $IAEI = IEDI$, $IBEI = \sqrt{3}$ br ise $IACI$ kaç br'dir?



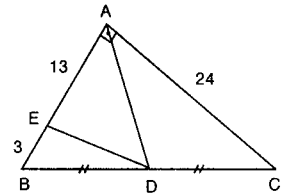
- A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 6

19. Şekildeki ABC dik üçgeninde $IBI = IADI = 6$ br ve $IDCI = 14$ br ise $IBCI$ kaç br'dir?



- A) 16 B) 17 C) 18 D) 19 E) 20

20. Şekildeki ABC üçgeninde $[AB] \perp [AC]$, $IBDI = IDCI$, $IACI = 24$ br, $IAEI = 13$ br ve $IEBI = 3$ br ise $IEDI$ kaç br'dir?



- A) 12 B) 13 C) 14 D) 15 E) 16

DİK ÜÇGEN

TEST 2

1. ABC üçgeninde

$$m(\hat{B}) = 90^\circ,$$

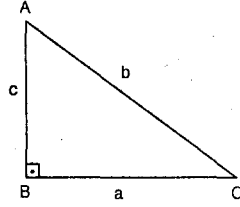
$$|AB| = c$$

$$|AC| = b \text{ ve}$$

$$|BC| = a \text{ dır.}$$

$$c^2 - a^2 = 12 \text{ br}^2 \text{ ise}$$

$$b = 6 \text{ br ise } |BC| = a \text{ br'dir?}$$



- A) $\sqrt{6}$ B) $2\sqrt{3}$ C) $3\sqrt{2}$ D) $2\sqrt{6}$ E) $3\sqrt{6}$

2. Şekilde

$$[CD] \perp [AB],$$

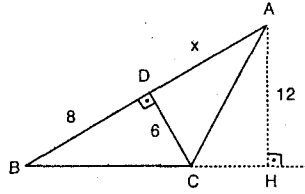
$$[AH] \perp [BC],$$

$$|CD| = 6 \text{ br,}$$

$$|BD| = 8 \text{ br ve}$$

$$|AH| = 12 \text{ br ise}$$

$$|AD| = x \text{ kaç br'dir?}$$



- A) 8 B) 10 C) 12 D) 14 E) 16

3. Şekildeki ABC

$$\text{üçgeninde}$$

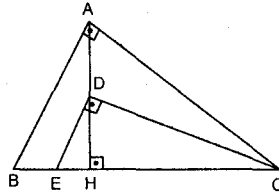
$$[AB] \perp [AC],$$

$$[AH] \perp [BC],$$

$$[DE] \perp [DC],$$

$$|BH| = 3|EH| \text{ ve}$$

$$|DH| = 4 \text{ br ise } |AH| \text{ kaç br'dir?}$$



- A) $4\sqrt{2}$ B) $4\sqrt{3}$ C) $5\sqrt{2}$ D) 8 E) $5\sqrt{3}$

4. ABC üçgeninde

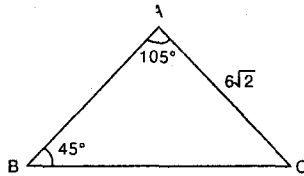
$$m(\hat{A}) = 105^\circ,$$

$$m(\hat{B}) = 45^\circ \text{ ve}$$

$$|AC| = 6\sqrt{2} \text{ br}$$

$$\text{ise}$$

$$|AB| \text{ kaç br'dir?}$$



- A) $3\sqrt{2}$ B) 5 C) 6 D) 7 E) 8

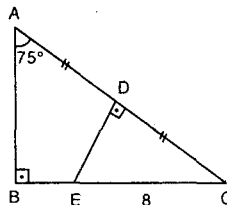
5. Şekilde $[AB] \perp [BC],$

$$[ED] \perp [AC],$$

$$m(\hat{BAC}) = 75^\circ \text{ ve}$$

$$|EC| = 8 \text{ br ise}$$

$$|AB| \text{ kaç br'dir?}$$



- A) 3 B) 4 C) 5 D) 6 E) 7

6. Şekilde $[DH] \perp [BC]$

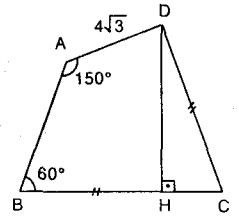
$$m(\hat{B}) = 60^\circ,$$

$$m(\hat{BAD}) = 150^\circ$$

$$|DH| = \sqrt{3}|HC|,$$

$$|BH| = |DC| \text{ ve}$$

$$|AD| = 4\sqrt{3} \text{ br ise } |AB| \text{ kaç br'dir?}$$



- A) 4 B) 5 C) 6 D) 7 E) 8

7. Şekilde $[BD] \perp [AC],$

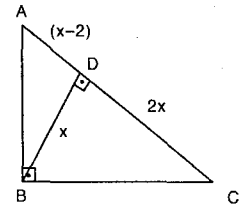
$$[AB] \perp [BC],$$

$$|BD| = x \text{ br,}$$

$$|AD| = (x-2) \text{ br,}$$

$$|DC| = (2x) \text{ br ise}$$

$$|AC| \text{ kaç br'dir?}$$



- A) 6 B) 8 C) 10 D) 12 E) 15

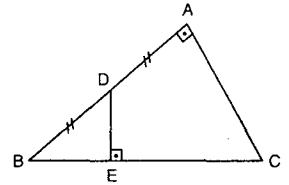
8. Şekilde $[AC] \perp [AB],$

$$[DE] \perp [BC],$$

$$|AD| = |DB| = \sqrt{12} \text{ br}$$

$$\text{ve } |BE| = 3 \text{ br ise}$$

$$|EC| \text{ kaç br'dir?}$$



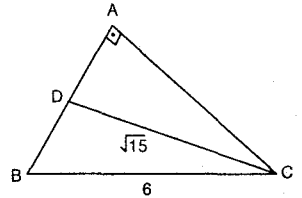
- A) 2 B) 3 C) 4 D) 5 E) 6

9. ABC dik üçgeninde $[CD]$ kenarortaydır.

$$|CD| = \sqrt{15} \text{ br ve}$$

$$|BC| = 6 \text{ br ise}$$

$$|AC| \text{ kaç br'dir?}$$



- A) $2\sqrt{2}$ B) $2\sqrt{3}$ C) $3\sqrt{2}$
D) $2\sqrt{6}$ E) $4\sqrt{2}$

10. Şekilde $m(\hat{B}) = 90^\circ,$

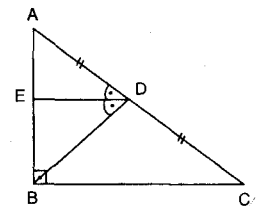
$$[BD] \text{ kenarortay, } [DE]$$

$$ADB \text{ açısının}$$

$$\text{ağırtaydır.}$$

$$|BC| = 20 \text{ cm ise } |DE|$$

$$\text{kaç cm'dir?}$$



- A) 16 B) 12 C) 10 D) 8 E) 6

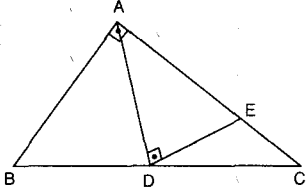
11. ABC üçgeninde

$m(\hat{A}) = 90^\circ$,

$m(\hat{ADE}) = 90^\circ$,

$IAEI = 8$ br ve

$IECI = 2$ br ise

IADI kenarortay uzunluğu kaç br'dir?

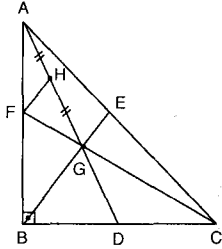
- A)
- $\sqrt{5}$
- B)
- $\sqrt{10}$
- C)
- $2\sqrt{5}$
- D)
- $2\sqrt{6}$
- E)
- $2\sqrt{10}$

12. Şekildeki ABC üçgeninde

$m(\hat{B}) = 90^\circ$, G ağırlık

merkezi $IAHI = IHGI$ ve

$IACI = 42$ br ise **IFHI** kaç br'dir?



- A) 6 B) 7 C) 8 D) 9 E) 14

13. Şekilde

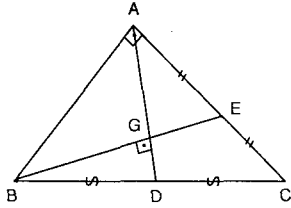
$[AB] \perp [AC]$,

$[AD] \perp [BE]$,

$IBDI = IDC$,

$IAEI = IEC$ ve

$IAGI = 2$ cm ise

ABC üçgeninin alanı kaç cm^2 'dir?

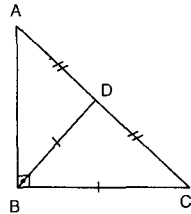
- A)
- $6\sqrt{2}$
- B)
- $6\sqrt{3}$
- C) 6 D) 8 E) 9

14. ABC dik üçgeninde

$IBDI = IBC$,

$IADI = IDC$ ve

$IABI = 9$ cm ise

IBCI kaç cm^2 'dir?

- A)
- $2\sqrt{3}$
- B)
- $3\sqrt{2}$
- C)
- $3\sqrt{3}$
-
- D)
- $4\sqrt{2}$
- E)
- $6\sqrt{2}$

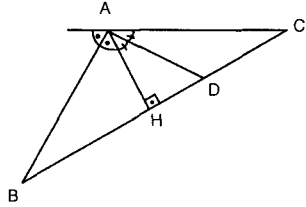
15. Şekilde AHC dik

$[AB] \perp [AC]$

$[AD] \perp [BC]$

$IAHI = 15$ br ve

$IACI = 39$ br ise

IBDI kaç br'dir?

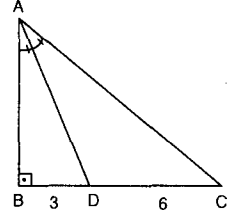
- A) 25 B) 27,5 C) 32,5 D) 35 E) 37,5

16. Şekildeki ABC dik

$[AD] \perp [BC]$ üçgeninde;

$IBDI = 3$ br,

$ICDI = 6$ br ise

IABI kaç br'dir?

- A) 4 B)
- $3\sqrt{2}$
- C)
- $3\sqrt{3}$
- D)
- $4\sqrt{2}$
- E)
- $4\sqrt{3}$

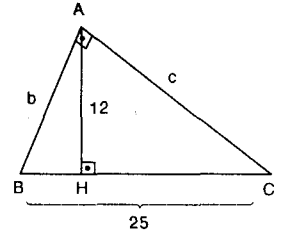
17. ABC üçgeninde

$[AB] \perp [AC]$,

$[AH] \perp [BC]$

$IAHI = 12$ br ve

$IBCI = 25$ br ise

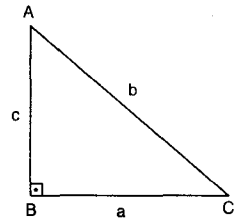
b + c kaç br'dir?

- A) 30 B) 32 C) 35 D) 37 E) 40

18. Şekildeki dik üçgende,

$a - c = 7$ cm ve

$b = 13$ cm ise

A(ABC) kaç cm^2 'dir?

- A) 20 B) 30 C) 40 D) 60 E) 90

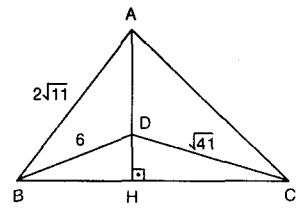
19. Şekildeki ABC

$[AB] \perp [AC]$ üçgeninde

$IABI = 2\sqrt{11}$ br,

$IBDI = 6$ br ve

$IDCI = \sqrt{41}$ br ise

IACI kaç br'dir?

- A) 6 B) 7 C) 8 D) 9 E) 10

20. Şekildeki ABC

$[AB] \perp [AC]$ üçgeninin en büyük

$[AD] \perp [BC]$ kenarı $[BC]$ ve

$IABI = 4$ br'dir. ABC

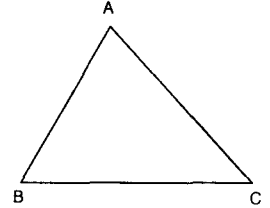
$[AD] \perp [BC]$ üçgeninin alanının

$[AD] \perp [BC]$ alabileceği maksimum

$[AD] \perp [BC]$ değer 12 br^2 dir.

A(ABC) maksimum değerini aldığı anda **IACI** kaç

br olur?



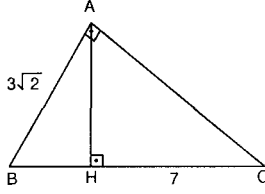
- A) 4 B) 5 C) 6 D) 8 E) 10

DİK ÜÇGEN

TEST

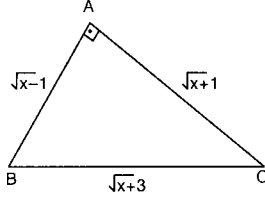
3

1. Şekildeki ABC üçgeninde
 $[AB] \perp [AC]$,
 $[AH] \perp [BC]$,
 $|AB| = 3\sqrt{2}$ br ve
 $|HC| = 7$ br ise
 $|BH|$ kaç br'dir?



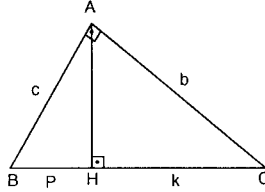
A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) $2\sqrt{3}$

2. Şekildeki ABC dik üçgeninde,
 $|AB| = (\sqrt{x} - 1)$ br,
 $|AC| = (\sqrt{x} + 1)$ br ve
 $|BC| = (\sqrt{x} + 3)$ br
 ise ABC üçgeninin
 çevresi kaç br'dir?



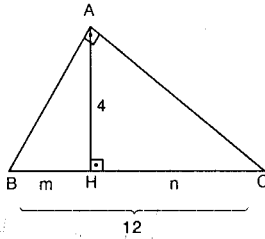
A) 12 B) 18 C) 24 D) 28 E) 32

3. Şekilde,
 $[AB] \perp [AC]$ ve
 $[AH] \perp [BC]$ dir.
 $|AC| = b$,
 $|AB| = c$,
 $|BH| = p$,
 $|HC| = k$ 'dir.
 $b^2 + c^2 = 90$ br ve $p^2 + k^2 = 40$ br ise $|AH|$ kaç br'dir?



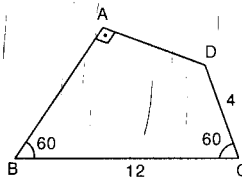
A) 12 B) $4\sqrt{6}$ C) 9 D) $3\sqrt{5}$ E) 5

4. Şekilde
 $|BH| = m$ br,
 $|HC| = n$ br,
 $|AH| = 4$ br ve
 $|BC| = 12$ br ise
 $m^2 + n^2$ toplamı
 kaç br²'dir?



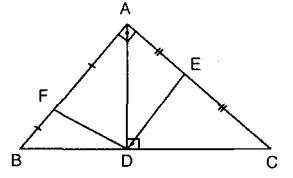
A) 36 B) 48 C) 72 D) 112 E) 125

5. Şekilde $[AB] \perp [AD]$,
 $m(\angle ABC) = m(\angle DCB) = 60^\circ$,
 $|DC| = 4$ br ve
 $|BC| = 12$ br ise
 $|AB|$ kaç br'dir?



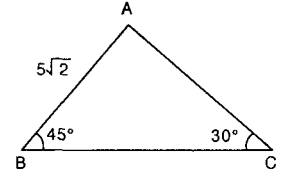
A) $2\sqrt{3}$ B) 4 C) 8 D) $4\sqrt{3}$ E) 10

6. Şekilde
 $[AB] \perp [AC]$,
 $[AD] \perp [BC]$,
 $|BF| = |AF|$,
 $|AE| = |EC|$ ve
 $|DE|^2 + |DF|^2 = 16$ br²
 ise $|BC|$ kaç birimdir?



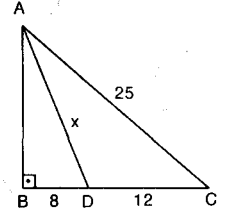
A) 6 B) 8 C) 10 D) 12 E) 16

7. ABC üçgeninde
 $m(\angle B) = 45^\circ$,
 $m(\angle C) = 30^\circ$
 ve $|AB| = 5\sqrt{2}$ ise
 $|BC|$ kaç br'dir?



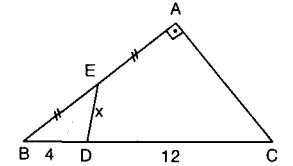
A) 5 B) 10 C) $10\sqrt{2}$
 D) $5(\sqrt{3} + 1)$ E) $5(\sqrt{3} + 2)$

8. ABC üçgeninde
 $m(\angle B) = 90^\circ$,
 $|AC| = 25$ br,
 $|BD| = 8$ br ve
 $|DC| = 12$ br ise
 $|AD| = x$ kaç br'dir?



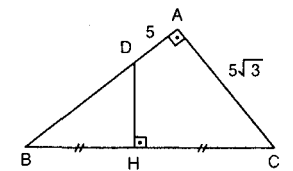
A) 17 B) 15 C) 13 D) 12 E) 10

9. Şekilde $m(\angle A) = 90^\circ$
 $|BE| = |AE|$,
 $|BD| = 4$ br ve
 $|DC| = 12$ br ise $|ED|$
 kaç br'dir?



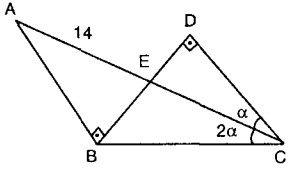
A) 3 B) 4 C) 5 D) 6 E) 8

10. Şekildeki üçgende,
 $[AB] \perp [AC]$,
 $[DH] \perp [BC]$,
 $|BH| = |HC|$,
 $|AD| = 5$ br ve
 $|AC| = 5\sqrt{3}$ br ise
 $|BC|$ kaç br'dir?



A) 12 B) $8\sqrt{3}$ C) 16
 D) $10\sqrt{3}$ E) 24

11.



Şekilde, $[AB] \perp [BD]$ ve $[BD] \perp [DC]$ dir.

$m(\hat{ACB}) = 2m(\hat{DCA})$ ve $IAEI = 14$ br ise

$IBC I = x$ kaç br'dir?

- A) 7 B) 8 C) 9 D) 10 E) 12

12.

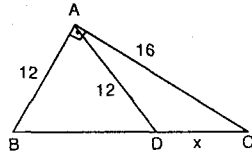
Şekilde

$[AB] \perp [AC]$,

$IABI = IADI = 12$ br ve

$IACI = 16$ br ise

$IDCI = x$ kaç br'dir?



- A) 5,6 B) 6,4 C) 7,2 D) 7,6 E) 8

13.

Şekilde

$[AB] \perp [AC]$,

$[AH] \perp [BC]$,

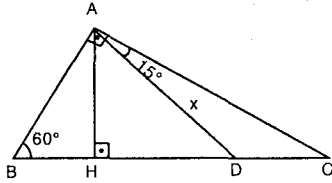
$m(\hat{ABC}) = 60^\circ$,

$m(\hat{DAC}) = 15^\circ$

ve

$IBC I = 4\sqrt{6}$ br ise

$IADI = x$ kaç br'dir?



- A) 4 B) $2\sqrt{6}$ C) $4\sqrt{2}$
D) 6 E) 8

14.

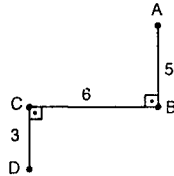
Şekilde $[DC] \perp [BC]$,

$[AB] \perp [BC]$, $IDCI = 3$ br,

$IBC I = 6$ br ve $IABI = 5$ br'dir.

$P \in [BC]$ olmak üzere

$IDPI + IAPI$ toplamı en az kaçtır?



- A) $\sqrt{10}$ B) $2\sqrt{5}$ C) 5
D) $4\sqrt{5}$ E) 10

15.

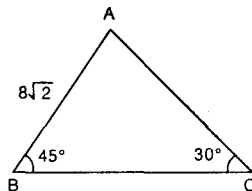
ABC üçgeninde,

$m(\hat{ABC}) = 45^\circ$,

$m(\hat{ACB}) = 30^\circ$ ve

$IABI = 8\sqrt{2}$ br ise

$IACI$ kaç br'dir?



- A) 10 B) 12 C) 16 D) 18 E) 20

16.

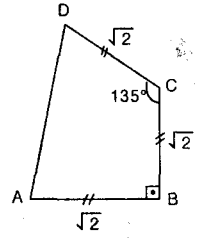
Şekilde $[AB] \perp [CB]$,

$m(\hat{DCB}) = 135^\circ$ ve

$IDCI = IBCI = IABI = \sqrt{2}$ br

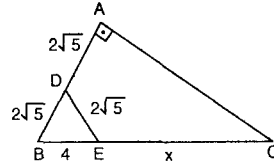
ise

$IADI$ kaç br'dir?



- A) $2\sqrt{2}$ B) $2\sqrt{3}$ C) $\sqrt{6}$
D) $2\sqrt{6}$ E) $3\sqrt{3}$

17.



Şekilde $[AB] \perp [AC]$, $IBDI = IADI = IDEI = 2\sqrt{5}$ br ve

$IBEI = 4$ br ise $IECI = x$ kaç br'dir?

- A) 6 B) 8 C) 10 D) 12 E) 16

18.

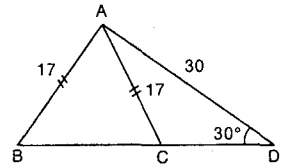
Şekilde

$m(\hat{ADB}) = 30^\circ$,

$IABI = IACI = 17$ br

ve $IADI = 30$ br ise

$IBC I$ kaç br'dir?



- A) 20 B) 16 C) 14 D) 12 E) 10

19.

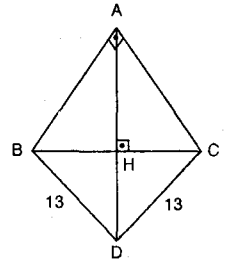
Şekilde $[AB] \perp [AC]$,

$[AH] \perp [BC]$,

$IDCI = IBDI = 13$ br ve

$IHDI = 12$ br ise

$IABI$ kaç br'dir?



- A) $3\sqrt{5}$ B) $5\sqrt{2}$ C) 8
D) $5\sqrt{3}$ E) 10

20.

Şekilde,

$[AB] \perp [AC]$,

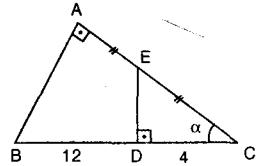
$[ED] \perp [BC]$,

$IAEI = IECI$,

$IBDI = 12$ br ve

$IDCI = 4$ br ise

$m(\hat{ACB})$ kaç derecedir?

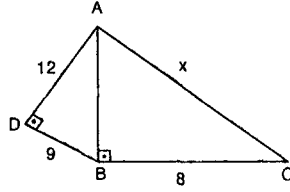


- A) 15 B) 30 C) 45 D) 60 E) 75

DİK ÜÇGEN

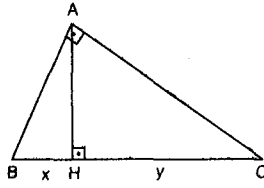
TEST 4

1. Şekilde,
 $[AB] \perp [BC]$,
 $[AD] \perp [BD]$,
 $ADI = 12$ br,
 $BDI = 9$ br ve
 $BCI = 8$ br ise
 $ACI = x$ kaç br'dir?



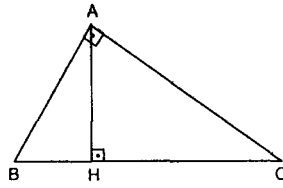
A) 9 B) 10 C) 13 D) 15 E) 17

2. Şekilde,
 $[AB] \perp [AC]$,
 $[AH] \perp [BC]$,
 $IBHI = x$ br,
 $IHCI = y$ br,
 $ABI = 10$ br ve
 x ile y 'nin geometrik ortalaması 6 ise $IHCI$ kaç br'dir?



A) 10 B) 9 C) $\frac{9}{2}$ D) $\frac{7}{2}$ E) $\frac{9}{4}$

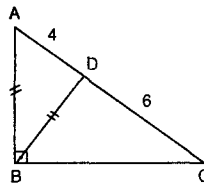
3. Şekilde,
 $[AB] \perp [AC]$,
 $[AH] \perp [BC]$,
 $IBHI < IHCI$ dir.
 $IAHI = 2$ br ve
 $A(ABC) = 8$ br² ise



$m(\widehat{ABC})$ aşağıdakilerden hangisidir?

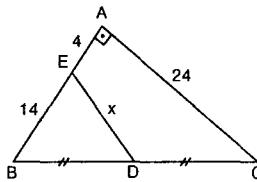
A) 15 B) 30 C) 45 D) 60 E) 75

4. ABC üçgeninde
 $m(\widehat{ABC}) = 90^\circ$,
 $ABI = IBDI$,
 $ADI = 4$ br ve
 $IDCI = 6$ br ise
 $IBDI$ kaç br'dir?



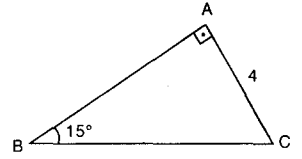
A) 4 B) $2\sqrt{5}$ C) 6 D) $4\sqrt{3}$ E) $4\sqrt{5}$

5. ABC üçgeninde
 $m(\widehat{BAC}) = 90^\circ$,
 $BDI = IDCI$,
 $IBEI = 14$ br,
 $IAEI = 4$ br ve
 $ACI = 24$ br ise
 $IEDI = x$ kaç br'dir?



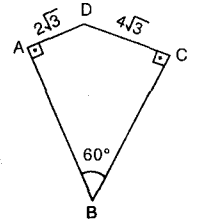
A) 10 B) 12 C) 13 D) 15 E) 16

6. ABC üçgeninde
 $m(\widehat{A}) = 90^\circ$,
 $m(\widehat{B}) = 15^\circ$ ve
 $ACI = 4$ br ise
 ABI kaç br'dir?



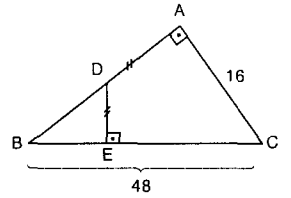
A) $4\sqrt{3}$ B) $4(2-\sqrt{3})$ C) 8
D) $8\sqrt{3}$ E) $4(2+\sqrt{3})$

7. Şekilde,
 $[AD] \perp [AB]$,
 $[CD] \perp [BC]$,
 $m(\widehat{ABC}) = 60^\circ$,
 $ADI = 2\sqrt{3}$ br,
ve $IDCI = 4\sqrt{3}$ br ise
 $ABI + IBCI$ kaç br'dir?



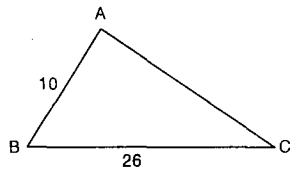
A) 8 B) 10 C) $6\sqrt{3}$ D) 12 E) 18

8. Şekilde
 $[AB] \perp [AC]$,
 $[DE] \perp [BC]$,
 $IADI = IDEI$,
 $ACI = 16$ br ve
 $BCI = 48$ br ise
 $IEDI$ kaç br'dir?



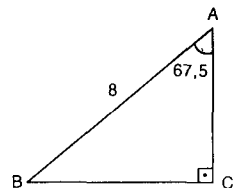
A) $3\sqrt{2}$ B) $4\sqrt{2}$ C) $5\sqrt{2}$
D) $6\sqrt{2}$ E) $8\sqrt{2}$

9. ABC üçgeninde
 $m(\widehat{B}) = 2.m(\widehat{C})$,
 $ABI = 10$ br ve
 $BCI = 26$ br ise
 BC kenarına ait yükseklik kaç br'dir?



A) 5 B) 6 C) 7 D) 8 E) 9

10. ABC üçgeninde
 $m(\widehat{C}) = 90^\circ$,
 $m(\widehat{A}) = 67,5^\circ$ ve
 $ABI = 8$ br ise
 ABC üçgeninin alanı kaç br² dir?



A) $2\sqrt{2}$ B) $4\sqrt{2}$ C) $5\sqrt{2}$ D) $6\sqrt{2}$ E) $8\sqrt{2}$

11. Şekilde $[BC] \parallel [AF]$,
 $[BD] \perp [AF]$,

$$m(\widehat{EBC}) = 60^\circ,$$

$$|AB| = 3 \text{ br ve}$$

$$|GC| = 6 \text{ br ise}$$

$m(\widehat{BCA}) = \alpha$ kaç derecedir?

- A) 15 B) 20 C) 30 D) 45 E) 50

12. Şekilde $[AB] \perp [BC]$,

$$m(\widehat{BDC}) = 2m(\widehat{BCD}) = 78^\circ$$

ve $|BD| = 3 \text{ br}$ ise $|AC|$ kaç br'dir?

- A) 5 B) 6 C) 8 D) 10 E) 12

13. Şekilde $[AB] \perp [BC]$,

$[BD] \perp [DC]$ ve $[BC]$ $\widehat{ACD}$ açısının açıortayıdır.
 $|AC| = 9 \text{ br}$ ve
 $|DC| = 4 \text{ br}$ ise
 $|BC|$ kaç br'dir?

- A) 5 B) 6 C) $5\sqrt{2}$ D) 8 E) $4\sqrt{5}$

14. Şekilde,
 $[AB] \perp [AC]$,
 $[ED] \perp [BC]$,

$$m(\widehat{C}) = 30^\circ,$$

$$|BD| = |DC| \text{ ve}$$

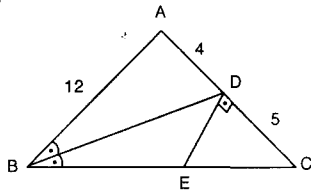
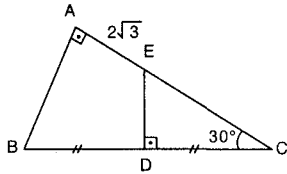
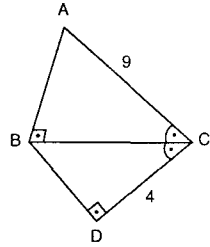
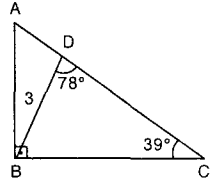
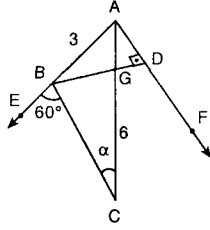
$$|AE| = 2\sqrt{3} \text{ br}$$

ise $|BC|$ kaç br'dir?

- A) 6 B) 8 C) $6\sqrt{3}$ D) 12 E) $12\sqrt{3}$

15. Şekilde
 $[ED] \perp [AC]$
 $[BD]$ açıortay,
 $|AB| = 12 \text{ br}$,
 $|AD| = 4 \text{ br}$ ve
 $|DC| = 5 \text{ br}$ ise
 $|EC|$ kaç br'dir?

- A) $\frac{25}{4}$ B) 8 C) $\frac{25}{3}$ D) 12 E) 13



16. Şekilde
 $[AB] \perp [AC]$,
 $[AH] \perp [BC]$, $[CD]$ açıortay ve
 $|AD| = 4 \text{ br}$ ise
 $|AE|$ kaç br'dir?

- A) 4 B) 5 C) 6 D) 7 E) 8

17. ABC üçgeninde

$$m(\widehat{B}) = 90^\circ$$

$$|AD| = |DC|$$

$$|DE| = |AB|$$

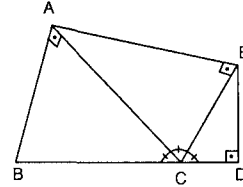
$$m(\widehat{BAC}) = 78^\circ$$

ise $\widehat{EDC}$

açısının ölçüsü kaç derecedir?

- A) 28 B) 24 C) 21 D) 18 E) 16

- 18.



Şekilde, $[AB] \perp [AC]$, $[ED] \perp [CD]$, $[AE] \perp [EC]$ ve
 $m(\widehat{ACB}) = m(\widehat{ACE}) = m(\widehat{ECD})$ ise $\frac{|AB|}{|ED|}$ oranı kaçtır?

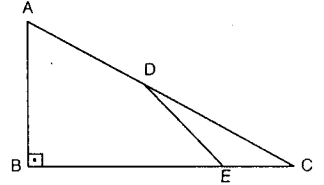
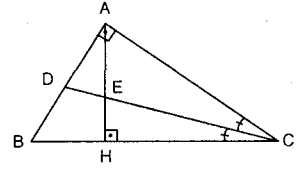
- A) 2 B) $2\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 8

19. Şekilde $[AB] \perp [AC]$
 $[AH] \perp [BC]$,
 $|BD| = |DH|$,
 $|AB| = 4\sqrt{10} \text{ br}$
ve $|HC| = 12 \text{ br}$ ise
 $|AD| = x$ kaç br'dir?

- A) $2\sqrt{7}$ B) 7 C) $3\sqrt{7}$
D) $4\sqrt{7}$ E) 12

20. Şekilde BAC ve BDC
dik üçgen,
 $[AK] \perp [BC]$,
 $[HD] \perp [BC]$,
 $|AK| = |HD|$,
 $|KC| = 4 \text{ br}$ ve
 $|HK| = 5 \text{ br}$ ise
 $|AK|$ kaç br'dir?

- A) 4 B) 5 C) 6 D) 8 E) 10



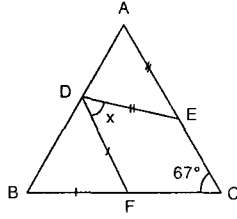
İKİZKENAR ÜÇGEN

TEST 1

1. Şekilde ABC üçgeninde
 $IAEI = IDEI$,
 $IDFI = IBFI$

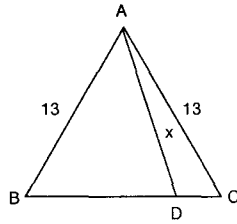
$$m(\widehat{ACB}) = 67^\circ \text{ ise}$$

$m(\widehat{EDF}) = x$ kaç derecedir?



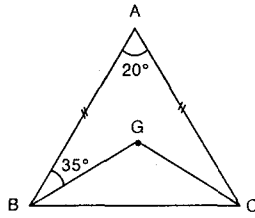
- A) 67 B) 69 C) 71 D) 97 E) 113

2. Şekilde
 $IABI = IACI = 13$ cm
 $IDCI = 2$ cm
 $IBDI = 22$ cm'dir.
 $IAI = x$ kaç cm'dir?



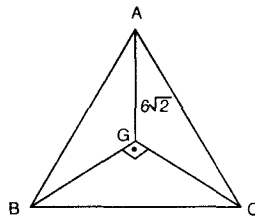
- A) $2\sqrt{5}$ B) $3\sqrt{5}$ C) $4\sqrt{5}$
D) $5\sqrt{5}$ E) $6\sqrt{5}$

3. Şekilde $IABI = IACI$,
 $m(\widehat{BAC}) = 20^\circ$
 $m(\widehat{ABG}) = 35^\circ$,
G, ağırlık merkezi
 $IBCI = 16$ cm ise
 IAI kaç cm'dir?



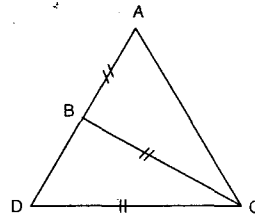
- A) $5\sqrt{10}$ B) $6\sqrt{10}$ C) $7\sqrt{10}$
D) $8\sqrt{10}$ E) $10\sqrt{10}$

4. Şekilde $IABI = IACI$
G, ağırlık merkezi
 $m(\widehat{BGC}) = 90^\circ$,
 $IAI = 6\sqrt{2}$ cm ise
 ACI kaç cm'dir?



- A) $4\sqrt{5}$ B) $5\sqrt{5}$ C) $6\sqrt{5}$
D) $7\sqrt{5}$ E) $8\sqrt{5}$

5. Şekilde
 $IABI = IBCI = IDCI$,
 $IAI = IACI$ ise
 $m(\widehat{ABC})$ kaç derecedir?



- A) 36 B) 72 C) 84 D) 96 E) 108

6. Şekilde $IABI = IACI$

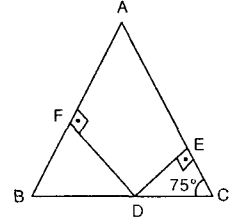
$$m(\widehat{ACB}) = 75^\circ,$$

$$IABI = 18 \text{ cm}$$

$$[DE] \perp [AC],$$

$$[DF] \perp [AB] \text{ ise}$$

$IDEI + IDFI$ kaç cm'dir?



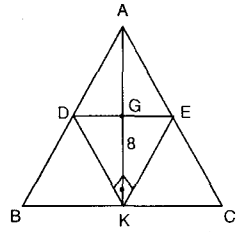
- A) 7 B) 8 C) 9 D) 10 E) 12

7. Şekilde $IABI = IACI$,
 $[DE] \parallel [BC]$,
G ağırlık merkezi

$$m(\widehat{DKE}) = 90^\circ$$

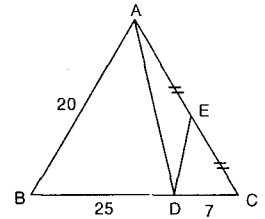
$$IGKI = 8 \text{ cm ise}$$

IAI kaç cm'dir?



- A) $12\sqrt{5}$ B) $10\sqrt{5}$ C) $8\sqrt{5}$
D) $6\sqrt{5}$ E) $4\sqrt{5}$

8. Şekilde
 $IABI = IACI = 20$ cm
 $IAEI = IECI$,
 $IBDI = 25$ cm
 $IDCI = 7$ cm ise
 $IDEI = x$ kaç cm'dir?

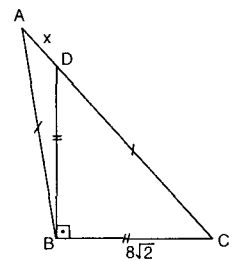


- A) $\sqrt{22}$ B) $\sqrt{31}$ C) $\sqrt{42}$
D) $\sqrt{37}$ E) $\sqrt{68}$

9. Şekilde $m(\widehat{DBC}) = 90^\circ$
 $IBDI = IBCI$, $IABI = IDCI$
dir.

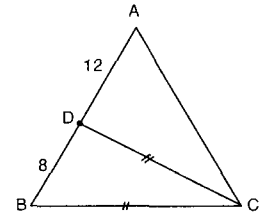
$$IBCI = 8\sqrt{2} \text{ cm ise}$$

$IAI = x$ kaç cm'dir?



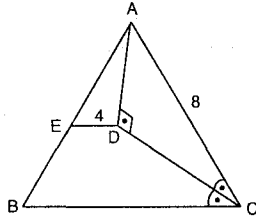
- A) $4(\sqrt{3}-1)$ B) $5(\sqrt{3}-1)$ C) $6(\sqrt{3}-1)$
D) $8(\sqrt{3}-1)$ E) $10(\sqrt{3}-1)$

10. Şekilde
 $IABI = IACI$,
 $IBCI = ICDI$,
 $IAI = 12$ cm
 $IBDI = 8$ cm ise
 $A(ABC)$ kaç cm^2 'dir?

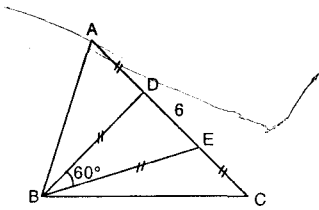


- A) 96 B) 112 C) 116 D) 120 E) 124

11. Şekildeki $\triangle ABC$ ninde
 $[CD] \perp [AD]$
 $[DE] \parallel [BC]$
 $|DE| = 4$ cm,
 $|AC| = 8$ cm ise
 $|BC| = x$ kaç cm'dir?
 A) 18 B) 17 C) 16 D) 15 E) 12



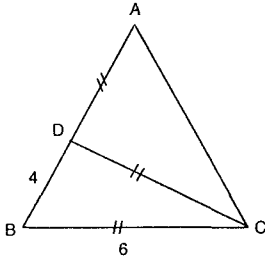
12.



Şekilde $|AD| = |BD| = |BE| = |EC|$ dir. $m(\widehat{DBE}) = 60^\circ$,
 $|DE| = 6$ cm ise $|AB| + |BC|$ toplamı kaç cm'dir?

- A) $8\sqrt{3}$ B) $9\sqrt{3}$ C) $10\sqrt{3}$
 D) $11\sqrt{3}$ E) $12\sqrt{3}$

13.

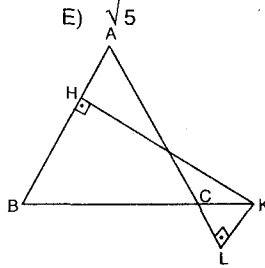


Şekildeki $\triangle ABC$ üçgeninde $|AD| = |DC| = |BC| = 6$ cm
 $|BD| = 4$ cm ise $|AC|$ kaç cm'dir?

- A) $4\sqrt{6}$ B) $3\sqrt{6}$ C) $2\sqrt{6}$
 D) $2\sqrt{5}$ E) $\sqrt{5}$

14.

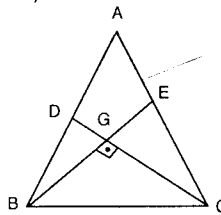
Şekilde
 $|AB| = |AC|$,
 $|KH| = |KL| = 8$ cm
 $|BC| = 4\sqrt{5}$ cm ise
 $A(\triangle ABC)$ kaç cm^2
 dir?



- A) $30\sqrt{5}$ B) $30\sqrt{6}$ C) $36\sqrt{5}$
 D) 40 E) 70

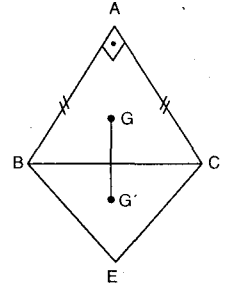
15.

Şekilde $|AB| = |AC|$,
 $|GE| = 4$ cm,
 G Ağırlık merkezi
 $[BG] \perp [CG]$ ise
 $|AC|$ kaç cm'dir?



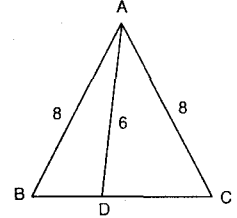
- A) $4\sqrt{5}$ B) $5\sqrt{5}$ C) $6\sqrt{5}$
 D) $7\sqrt{5}$ E) $8\sqrt{5}$

16. Şekilde $|AB| = |AC|$,
 $[BA] \perp [AC]$
 $\triangle BEC$ eşkenar üçgen
 $|BE| = 8$ cm G,
 G' üçgenlerin ağırlık
 merkezleri ise $|GG'|$ kaç
 cm'dir?



- A) $\frac{2}{3}(\sqrt{3} + 1)$ B) $\frac{4}{3}(\sqrt{3} + 1)$ C) $\frac{5}{3}(\sqrt{3} + 1)$
 D) $2(\sqrt{3} + 1)$ E) $\sqrt{3}$

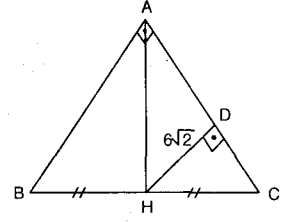
17. $\triangle ABC$ üçgeninde
 $|AB| = |AC| = 8$ cm,
 $|AD| = 6$ cm
 $|BD| = m$ $|DC| = n$ ise
 $m.n$ kaç cm^2 dir?



- A) 18 B) 20 C) 28 D) 32 E) 36

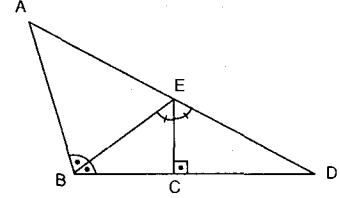
18. Şekilde

$m(\widehat{BAC}) = 90^\circ$,
 $|AB| = |AC|$,
 $|BH| = |HC|$ ve
 $|HD| = 6\sqrt{2}$ cm ise
 $A(\triangle ABC)$ kaç cm^2
 dir?



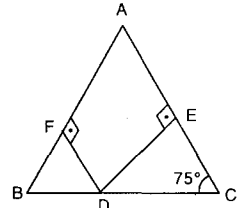
- A) 72 B) 144 C) 160 D) 188 E) 192

19. Şekildeki $\triangle ABD$
 üçgeninde
 $[BE]$ ve $[EC]$
 açıortay
 $[EC] \perp [BD]$,
 $|AE| = 2|BE|$
 $|CD| = 6$ cm
 ise $|EC|$ kaç
 cm'dir?



- A) $\sqrt{15}$ B) $2\sqrt{15}$ C) $3\sqrt{15}$
 D) $4\sqrt{15}$ E) $5\sqrt{15}$

20. Şekilde $|AB| = |AC|$
 $m(\widehat{BCA}) = 75^\circ$,
 $|DF| + |DE| = 10$ cm ise
 $A(\triangle ABC)$ kaç cm^2 dir?

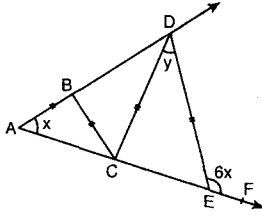


- A) 100 B) 80 C) 72 D) 64 E) 48

İKİZKENAR ÜÇGEN

TEST 2

1.

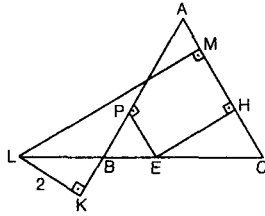


Şekilde $AB = BC = CD = DE$, $m(\hat{BAC}) = x$,
 $m(\hat{DEF}) = 6x$ ise $m(\hat{CDE}) = y$ kaç derecedir?

A) 40 B) 50 C) 60 D) 70 E) 80

2.

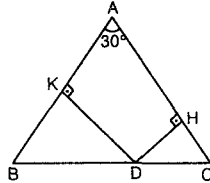
Şekilde $AB = AC$,
 $[EP] \perp [AB]$
 $[EH] \perp [AC]$,
 $[KL] \perp [AK]$
 $[LM] \perp [AC]$,
 $IKL = 2$ cm
 $IPE + IEH = 8$ cm
 ise $ILMI$ kaç cm'dir?



A) 10 B) 8 C) 7 D) 6 E) 5

3.

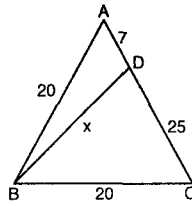
Şekilde $AB = AC$,
 $m(\hat{A}) = 30^\circ$,
 $[KD] \perp [AB]$, $[DH] \perp [AC]$ ve
 $IKD + IDH = 18$ cm ise
 $A(ABC)$ kaç cm^2 dir?



A) 192 B) 216 C) 240 D) 288 E) 324

4.

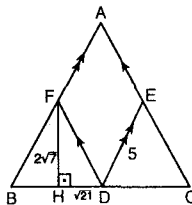
Şekilde $AB = BC = 20$ cm,
 $AD = 7$ cm ve
 $IDC = 25$ cm ise
 $IDB = x$ kaç cm'dir?



A) 6 B) 9 C) 12 D) 15 E) 18

5.

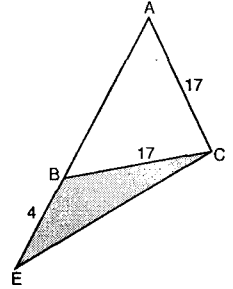
Şekilde $AB = AC$,
 $[DE] \parallel [AB]$,
 $[DF] \parallel [AC]$, $IDH = \sqrt{21}$ cm,
 $IFH = 2\sqrt{7}$ cm,
 $m(\hat{FHD}) = 90^\circ$ ve
 $IDE = 5$ cm ise AB kaç
 cm'dir?



A) 9 B) 10 C) 11 D) 12 E) 13

6.

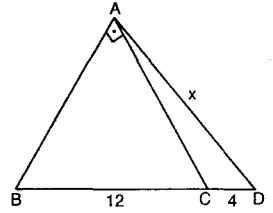
Şekilde $AB = BC = 17$,
 $AE = 20$ cm ve
 $BE = 4$ cm ise $A(BEC)$
 kaç cm^2 dir?



A) 16 B) 24 C) 30 D) 36 E) 40

7.

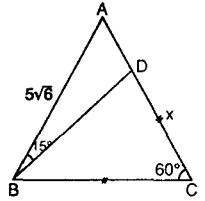
Şekilde $AB = AC$,
 $m(\hat{BAC}) = 90^\circ$,
 $BC = 12$ cm ve
 $CD = 4$ cm ise
 $AD = x$ kaç cm'dir?



A) $2\sqrt{7}$ B) $2\sqrt{34}$ C) $3\sqrt{21}$
 D) 11 E) 12

8.

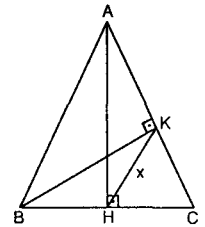
Şekilde $IDC = IB$,
 $m(\hat{ACB}) = 60^\circ$,
 $AB = 5\sqrt{6}$ cm ve
 $m(\hat{ABD}) = 15^\circ$ ise
 $IDC = x$ kaçtır?



A) 8 B) 9 C) 10 D) 12 E) 16

9.

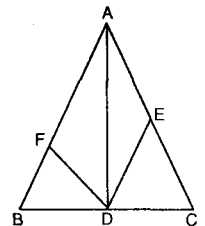
Şekilde $AB = AC = 25$ cm,
 $AH = 24$ cm ise $IKH = x$
 kaç cm'dir?



A) 7 B) 8 C) 9 D) 10 E) 12

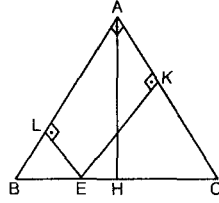
10.

Şekilde $AB = AC$,
 $[DF] \parallel [AC]$,
 $[DE] \parallel [AB]$,
 $IDB = 2$ cm,
 $IDC = 4$ cm ve
 $IDF + IDE = 6$ cm ise
 AD kaç cm'dir?



A) $2\sqrt{11}$ B) $3\sqrt{11}$ C) $3\sqrt{7}$
 D) $2\sqrt{7}$ E) $\sqrt{7}$

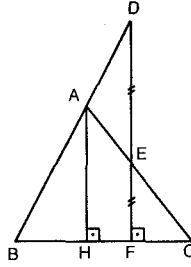
11. Şekilde ABC ikizkenar dik üçgen, $IBHI = IHCI$, $IAHI = 10$ cm, $[EL] \perp [AB]$ ve $[EK] \perp [AC]$ ise



IELI + IKEI toplamı kaç cm'dir?

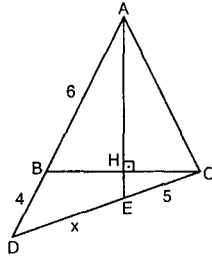
- A) $8\sqrt{2}$ B) $10\sqrt{2}$ C) $12\sqrt{2}$
D) $14\sqrt{2}$ E) $16\sqrt{2}$

12. Şekilde $IABI = IACI$, $[AH] \perp [BC]$ ve $IDEI = IEFI = 6$ cm ise **IAHI kaç cm'dir?**



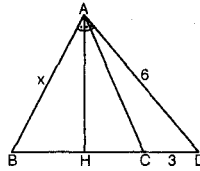
- A) 6 B) 7 C) 9 D) 10 E) 11

13. Şekilde $IABI = IACI$, $IABI = 6$ cm, $IBDI = 4$ cm, $IECI = 5$ cm ve ise **IDEI = x kaç cm'dir?**



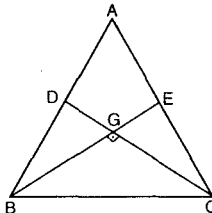
- A) $\frac{16}{3}$ B) $\frac{19}{3}$ C) $\frac{25}{3}$ D) $\frac{28}{3}$ E) $\frac{31}{3}$

14. Şekilde $IABI = IACI$, $m(\widehat{BAH}) = m(\widehat{HAC}) = m(\widehat{CAD})$, $ICDI = 3$ cm ve $IADI = 6$ cm ise **IABI = x kaç cm'dir?**



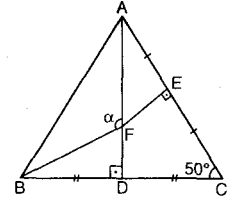
- A) $\frac{9\sqrt{5}}{5}$ B) $\frac{8\sqrt{5}}{5}$ C) $\frac{7\sqrt{5}}{5}$ D) $\frac{6\sqrt{5}}{5}$ E) $\frac{5\sqrt{5}}{6}$

15. Şekilde $IABI = IACI$, G, ağırlık merkezi $IBEI + IDC I = 18$ cm ise **IABI kaç cm'dir?**



- A) $3\sqrt{5}$ B) $4\sqrt{5}$ C) $5\sqrt{5}$ D) $6\sqrt{5}$ E) $7\sqrt{5}$

16. Şekilde $IAEI = IECI$, $IBDI = IDC I$, $[FE] \perp [AC]$, $[FD] \perp [BC]$ ve

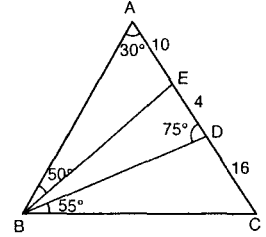


$m(\widehat{C}) = 50^\circ$ ise

$m(\widehat{AFB})$ kaç derecedir?

- A) 70 B) 75 C) 80 D) 85 E) 100

17. Şekilde ABC üçgeninde $m(\widehat{A}) = 30^\circ$



$m(\widehat{ABE}) = 50^\circ$,

$m(\widehat{CBD}) = 55^\circ$

$m(\widehat{ADB}) = 75^\circ$,

$IAEI = 10$ cm,

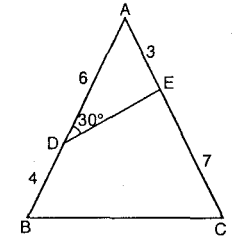
$IEDI = 4$ cm ve

$IDCI = 16$ cm ise

ABC üçgeninin çevresi kaç cm'dir?

- A) 52 B) 56 C) 62 D) 63 E) 64

18. Şekilde $IADI = 6$ cm, $IAEI = 3$ cm, $IBDI = 4$ cm, $IECI = 7$ cm ve

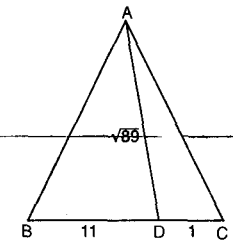


$m(\widehat{ADE}) = 30^\circ$ ise

$m(\widehat{ACB})$ kaç derecedir?

- A) 30 B) 45 C) 50 D) 60 E) 75

19. Şekilde $IABI = IACI$, $IBDI = 11$ cm, $IDCI = 1$ cm ve

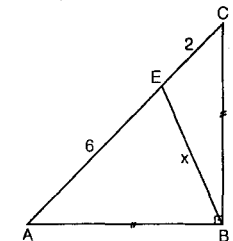


$IADI = \sqrt{89}$ cm ise

IABI kaç cm'dir?

- A) 10 B) 9 C) 8 D) 7 E) 6

20. Şekilde $IABI = IBCI$, $IECI = 2$ cm, $IAEI = 6$ cm ise **IBEI = x kaç cm'dir?**

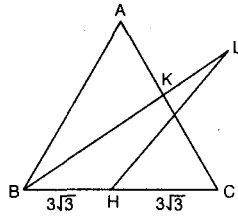


- A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $3\sqrt{5}$ D) $4\sqrt{5}$ E) $5\sqrt{5}$

EŞKENAR ÜÇGEN

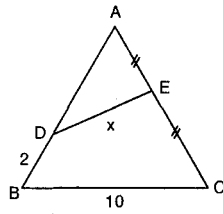
TEST 3

1. Şekilde ABC eşkenar üçgen $IAKI = IKCI$, $IBLI = 12$ cm
 $IBHI = IHCI = 3\sqrt{3}$ cm
 $IHLI$ kaç cm'dir?



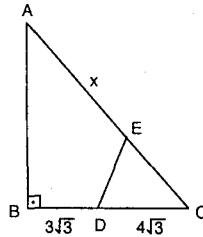
A) 4 B) 5 C) $2\sqrt{7}$ D) $3\sqrt{7}$ E) $5\sqrt{7}$

2. Şekilde ABC eşkenar üçgen, $IAEI = IECI$, $IBC = 10$ cm
 $IBDI = 2$ cm ise
 $IDEI = x$ kaç cm'dir?



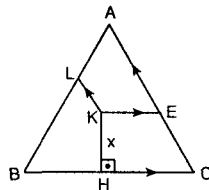
A) 5 B) 6 C) 7 D) 8 E) 9

3. Şekilde $m(\hat{ABC}) = 90^\circ$, EDC eşkenar üçgendir.
 $IBDI = 3\sqrt{3}$ cm
 $IDCI = 4\sqrt{3}$ cm ise
 $IAEI = x$ kaç cm'dir?



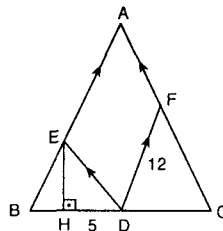
A) $6\sqrt{3}$ B) $7\sqrt{3}$ C) $8\sqrt{3}$
D) $9\sqrt{3}$ E) $10\sqrt{3}$

4. Şekilde ABC eşkenar üçgen $[KH] \perp [BC]$, $[KE] \parallel [BC]$ $[KL] \parallel [AC]$, $IKEI = 4$ cm $IKLI = 8$ cm,
 $IBHI = IHCI = 10$ cm ise
 $IHKI = x$ kaç cm'dir?



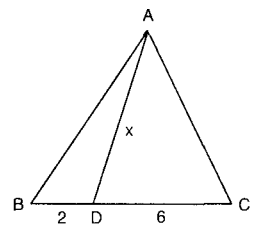
A) $6\sqrt{3}$ B) $5\sqrt{3}$ C) $4\sqrt{3}$
D) $3\sqrt{3}$ E) $2\sqrt{3}$

5. Şekilde ABC eşkenar üçgen $[EH] \perp [BC]$, $[DE] \parallel [AC]$ $[DF] \parallel [AB]$
 $IHDI = 5$ cm $IDFI = 12$ cm ise **ABC üçgeninin çevresi kaç cm'dir?**



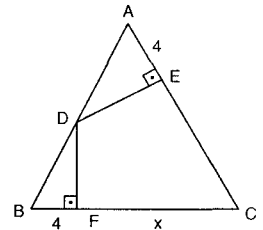
A) 51 B) 54 C) 57 D) 63 E) 66

6. ABC eşkenar üçgen
 $IBDI = 2$ cm
 $IDCI = 6$ cm ise
 $IADI = x$ kaç cm'dir?



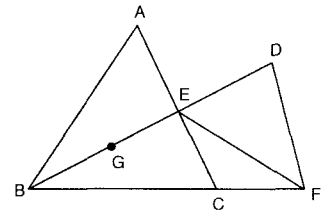
A) $2\sqrt{2}$ B) $3\sqrt{2}$ C) $\sqrt{13}$
D) $\sqrt{17}$ E) $2\sqrt{13}$

7. Şekilde ABC eşkenar üçgen $[DE] \perp [AC]$, $[DF] \perp [BC]$,
 $IAEI = IBFI = 4$ cm ise
 $IFCI = x$ kaç cm'dir?



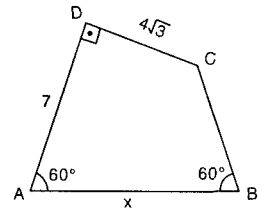
A) 10 B) 12 C) 14 D) 15 E) 16

8. Şekilde ABC ve DEF eşkenar üçgendir.
G ağırlık merkezi ise
 $\frac{IBGI}{IDFI}$ oranı kaçtır?



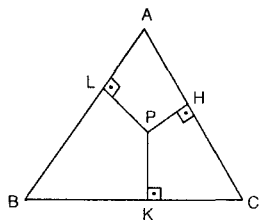
A) 3 B) 2 C) $\frac{1}{3}$ D) $\frac{2}{3}$ E) $\frac{3}{4}$

9. Şekilde
 $m(\hat{DAB}) = m(\hat{CBA}) = 60^\circ$
 $[CD] \perp [DA]$
 $ICDI = 4\sqrt{3}$ cm,
 $IADI = 7$ cm,
 $IABI = x$ kaç cm'dir?



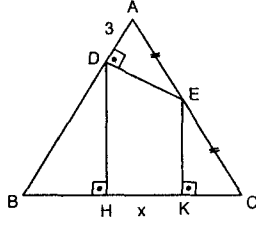
A) 9 B) 10 C) 11 D) 12 E) 13

10. ABC eşkenar üçgen
 $[PL] \perp [AB]$,
 $[PH] \perp [AC]$
 $[PK] \perp [BC]$ dir.
 $IPLI + IPKI + IPLI = 6\sqrt{3}$ cm ise **ABC üçgeninin çevresi kaç cm'dir?**



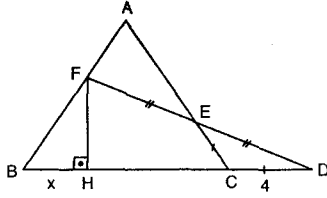
A) 24 B) 36 C) 38 D) 42 E) 45

11. Şekildeki ABC eşkenar üçgeninde
 $IAEI = IECI$
 $[DE] \perp [AB]$,
 $[DH] \perp [BC]$
 $[EK] \perp [BC]$ dir.
 $IADI = 3$ cm ise
 $IHKI = x$ kaç cm'dir?



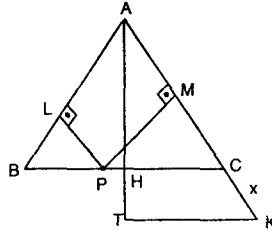
- A) $\frac{9}{2}$ B) 5 C) 6 D) $\frac{13}{2}$ E) $\frac{15}{2}$

12. Şekilde ABC eşkenar üçgen
 $IECI = ICDI$,
 $IIDEI = IFEI$ dir.
 $[FH] \perp [BC]$,
 $ICDI = 4$ cm
 ise $IBHI = x$
 kaç cm'dir?



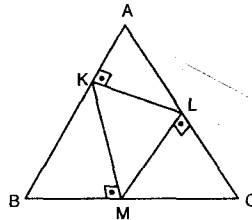
- A) 12 B) 10 C) 8 D) 6 E) 4

13. Şekilde ABC eşkenar üçgen
 $[PL] \perp [AB]$,
 $[PM] \perp [AC]$,
 $H, [BC]$ 'nin orta noktası,
 $[BC] \parallel [TK]$,
 $IPLI = \sqrt{3}$ cm
 $IPMI = 4\sqrt{3}$ cm,
 $IHTI = 2\sqrt{3}$ cm ise $IKCI = x$ kaç cm'dir?



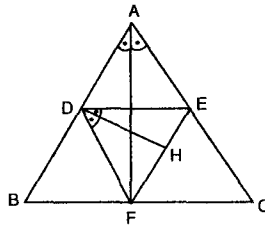
- A) 8 B) 7 C) 6 D) 5 E) 4

14. Şekilde ABC eşkenar üçgen $[KM] \perp [BC]$,
 $[ML] \perp [AC]$
 $[LK] \perp [AB]$ dir.
 $IMCI = 8$ cm ise
 $A(KLM)$ kaç cm^2 dir?



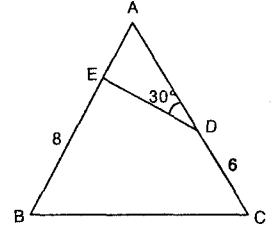
- A) $10\sqrt{3}$ B) $12\sqrt{3}$ C) $16\sqrt{3}$
 D) $24\sqrt{3}$ E) $36\sqrt{3}$

15. Şekilde ABC eşkenar üçgen D, E, F orta noktalar,
 $[AF]$ ve $[DH]$ açıortaylar
 $IHF I + IFC I = 6$ cm ise
 $IAFI$ kaç cm'dir?



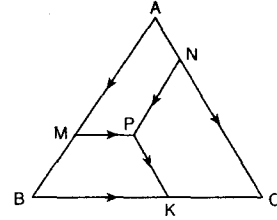
- A) $2\sqrt{3}$ B) $3\sqrt{3}$ C) $4\sqrt{3}$
 D) $5\sqrt{3}$ E) $6\sqrt{3}$

16. Şekilde ABC üçgeni eşkenar üçgen
 $m(\widehat{ADE}) = 30^\circ$
 $IBEI = 8$ cm
 $IDCI = 6$ cm ise
 $IBCI$ kaç cm'dir?



- A) 8 B) 9 C) 10 D) 11 E) 12

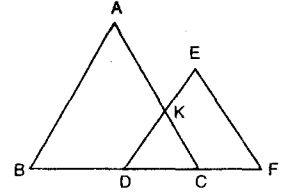
17.



- Şekilde ABC eşkenar üçgen $[PM] \parallel [BC]$,
 $[PN] \parallel [AB]$ $[PK] \parallel [AC]$ dir.
 $IPMI + IPKI + IPNI = 6$ cm ise $A(ABC)$ kaç cm^2 dir?

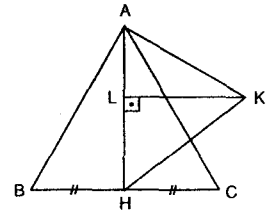
- A) $6\sqrt{3}$ B) $8\sqrt{3}$ C) $9\sqrt{3}$
 D) $12\sqrt{3}$ E) $16\sqrt{3}$

18. Şekilde ABC ve DEF üçgenleri eşkenar üçgen
 $IBFI = 12$ cm ise
 $BAKEF$ çokgeninin çevresi kaç cm'dir?



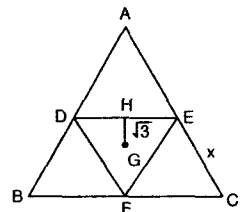
- A) 24 B) 28 C) 32 D) 36 E) 42

19. Şekilde ABC ve AHK üçgenleri eşkenar üçgen $[KL] \perp [AH]$,
 $IBHI = IHCI$,
 $IABI + IKLI = 14$ cm ise
 $IHCI = x$ kaç cm'dir?



- A) 4 B) 6 C) 8 D) 12 E) 14

20. ABC eşkenar üçgen D, E, F orta noktalar G, DEF üçgeninin ağırlık merkezi $IGHI = \sqrt{3}$ cm
 ise $IECI = x$ kaç cm'dir?

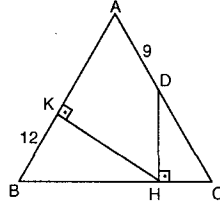


- A) 4 B) 6 C) 8 D) 12 E) 16

EŞKENAR ÜÇGEN

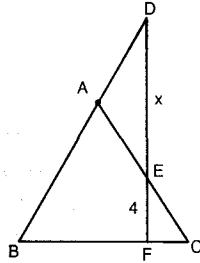
TEST 4

1. Şekilde ABC eşkenar üçgen
IBKI = 12 cm , IADI = 9
cm ise, IBCI kaç cm dir?



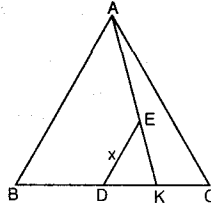
A) 36 B) 39 C) 42 D) 45 E) 48

2. Şekilde ABC eşkenar üçgen, $A(ABC) = 48\sqrt{3} \text{ cm}^2$
IFEI = 4 cm ise, IDEI = x
kaç cm dir?



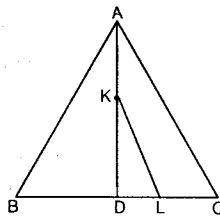
A) 8 B) 10 C) 12 D) 16 E) 24

3. Şekilde ABC eşkenar üçgen,
IABI = 8 cm ,
IBDI = IDCI ,
IBKI = 3IKCI , IAEI = IEKI
ise, IDEI = x kaç cm dir?



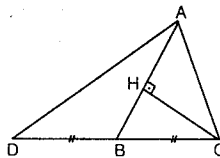
A) $\sqrt{5}$ B) $\sqrt{7}$ C) $\sqrt{13}$ D) $\sqrt{17}$ E) $\sqrt{23}$

4. Şekilde ABC eşkenar üçgen, IKDI = 2IAKI ,
IBDI = IDCI ,
ILCI = 2IDLI ,
IKLI = IDLI + 2
IAKI = $\sqrt{5}$ cm ise,
 Δ ABC'nin çevresi kaç
cm dir?



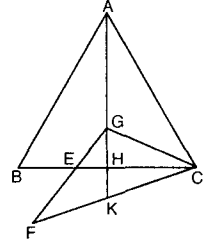
A) 6 B) 7 C) 8 D) 9 E) 10

5. Şekilde ABC eşkenar üçgen ,
IDBI = IBCI ,
[CH] $\perp$ [AB] ,
[CHI] = 10 cm ise,
IADI kaç cm dir?



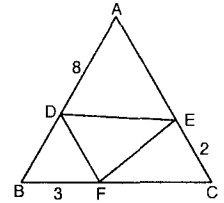
A) 10 B) 12 C) 16 D) 18 E) 20

6. Şekilde ABC eşkenar üçgen, G, ABC'nin, H noktası GFC'nin ağırlık merkezi, IAKI = 28 cm ise, ICEI kaç cm dir?



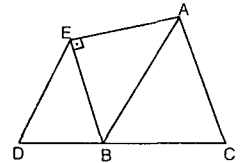
A) $8\sqrt{3}$ B) $10\sqrt{3}$ C) $12\sqrt{3}$
D) $16\sqrt{3}$ E) $18\sqrt{3}$

7. Şekilde ABC eşkenar üçgen,
IBCI 12 cm, IBFI = 3 cm,
IADI = 8 cm , ICEI = 2 cm
ise, A(DEF) kaç cm^2 dir?



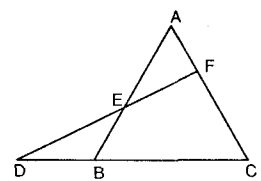
A) $12\sqrt{3}$ B) $\frac{13\sqrt{3}}{2}$ C) $\frac{15\sqrt{3}}{2}$
D) $\frac{17\sqrt{3}}{2}$ E) $\frac{19\sqrt{3}}{2}$

8. Şekilde BED ve ABC eşkenar üçgen,
 $m(\hat{AEB}) = 90^\circ$,
 $A(AEDC) = k \cdot A(BED)$
ise, $k \in \mathbb{R}$ kaçtır?



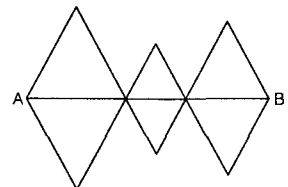
A) 7 B) 6 C) 5 D) 4 E) 3

9. Şekilde ABC eşkenar üçgen IBCI = 12 cm ,
 $IAFI = \frac{IBDI}{2}$ ve
 $m(\hat{FDC}) = 30^\circ$ ise,
IDFI kaç cm dir?



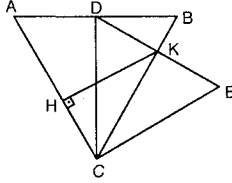
A) $6\sqrt{3}$ B) $8\sqrt{3}$ C) $9\sqrt{3}$
D) $10\sqrt{3}$ E) $12\sqrt{3}$

10. Şekildeki üçgenler eşkenar üçgenler olup IABI = 18 cm dir. Şeklin çevresi kaç cm dir?



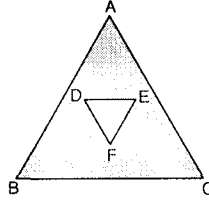
A) 36 B) 54 C) 64 D) 72 E) 96

11. Şekilde ABC ve CDE) eşkenar üçgen, $IADI = IBDI = a$, $[KH] \perp [AC]$ ise, $IHKI = x$ kaç a br dir?



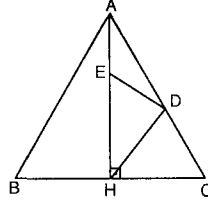
- A) $3\sqrt{3}$ B) $\frac{3\sqrt{3}}{4}$ C) $\frac{2\sqrt{3}}{3}$
D) $\frac{\sqrt{3}}{3}$ E) $\frac{\sqrt{6}}{4}$

12. Şekilde ABC ve DEF eşkenar üçgen kenarları asal sayı ve taralı alan $10\sqrt{3}$ cm^2 ise, ΔDEF 'nin çevresi kaç cm dir?



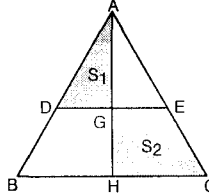
- A) 9 B) 8 C) 7 D) 6 E) 3

13. Şekilde ABC ve DEH eşkenar üçgenler, $A(\Delta DEH) = 9\sqrt{3}$ cm^2 ise, $A(ABC)$ kaç cm^2 dir?



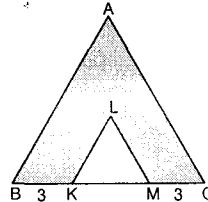
- A) $48\sqrt{3}$ B) $72\sqrt{3}$ C) $96\sqrt{3}$
D) $108\sqrt{3}$ E) $144\sqrt{3}$

14. Şekilde ABC eşkenar üçgen, G, ağırlık merkezi $[DE] \parallel [BC]$ $S_1 = k \cdot S_2$ ise, $k(k \in \mathbb{R})$ sayısı kaçtır?



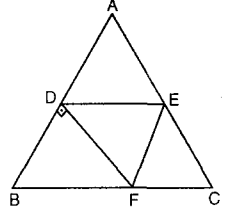
- A) $\frac{1}{3}$ B) $\frac{4}{5}$ C) $\frac{7}{6}$ D) $\frac{8}{7}$ E) 2

15. Şekilde ABC ve KLM eşkenar üçgen, $A(KLM) = 9\sqrt{3}$ cm^2 , $IBKI = IMCI = 3$ cm ise, taralı bölgenin alanı kaç cm^2 dir?



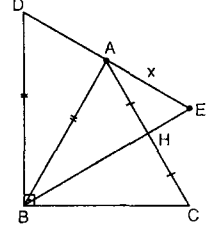
- A) $27\sqrt{3}$ B) $36\sqrt{3}$ C) $48\sqrt{3}$
D) $56\sqrt{3}$ E) $72\sqrt{3}$

16. Şekilde ABC eşkenar üçgen, $[DE] \parallel [BC]$, $[EF] \parallel [AB]$, $IDFI = 6\sqrt{3}$ cm ise, $A(ADE)$ kaç cm^2 dir?



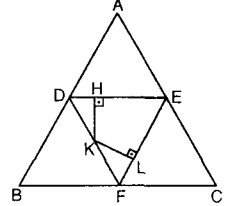
- A) $12\sqrt{3}$ B) $16\sqrt{3}$ C) $18\sqrt{3}$
D) $24\sqrt{3}$ E) $36\sqrt{3}$

17. Şekilde ABC eşkenar üçgen, D, A, E noktaları doğrusal, $[BD] \perp [BC]$, $Iahi = Ihci$, $IBDI = IABI = 12\sqrt{2}$ cm ise, $IAEI = x$ kaç cm'dir?



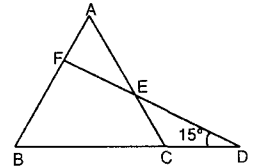
- A) 10 B) 12 C) 16 D) 18 E) 24

18. Şekilde ABC eşkenar üçgen, D, E, F kenarların orta noktaları, $[HK] \perp [DE]$, $[KL] \perp [EF]$, $IHKI = 4$ cm, $IKLI = 2$ cm ise, $A(ABC)$ kaç cm^2 dir?



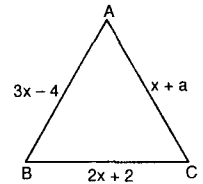
- A) $72\sqrt{3}$ B) $64\sqrt{3}$ C) $56\sqrt{3}$
D) $52\sqrt{3}$ E) $48\sqrt{3}$

19. Şekilde ABC eşkenar üçgen, $m(\angle BDF) = 15^\circ$, $IAFI = IFBI$ ise, $\frac{IDCI}{IBDI}$ oranı kaçtır?



- A) $\sqrt{3} - 1$ B) $2 - \sqrt{3}$ C) $2\sqrt{3} - 1$
D) $2\sqrt{3} - 3$ E) $2\sqrt{3} - 4$

20. Şekilde ABC eşkenar üçgen, $IABI = 3x - 4$, $IBCI = 2x + 2$, $IACI = x + a$ ise, $\sqrt{7a + x + 2}$ nin sayı değeri kaçtır?



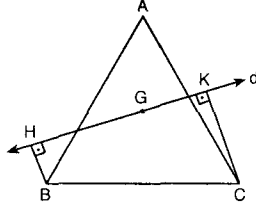
- A) 8 B) 9 C) 10 D) 11 E) 12

EŞKENAR ÜÇGEN

TEST

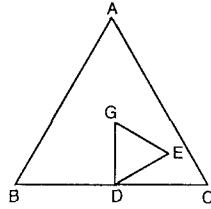
5

1. Şekilde ABC eşkenar üçgen, $[BH] \perp d$, $[CK] \perp d$, G ağırlık merkezi, $IBHI + ICKI = 4\sqrt{3}$ cm ise, ΔABC 'nin çevresi kaç cm dir?



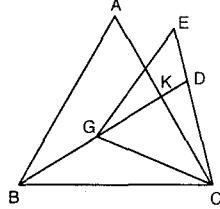
A) 24 B) 36 C) 42 D) 48 E) 52

2. Şekilde ABC ve GDE eşkenar üçgen, $IBDI = IDC$, G ağırlık merkezi ise, $\frac{A(ABC)}{A(GDE)}$ oranı kaçtır?



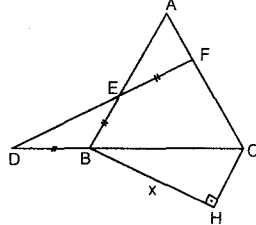
A) 6 B) 8 C) 9 D) 10 E) 12

3. Şekilde ABC eşkenar üçgen G, ABC'nin, ΔGEC 'nin ağırlık merkezi, $IKDI = \sqrt{3}$ cm ise, $A(ABC)$ kaç cm^2 dir?



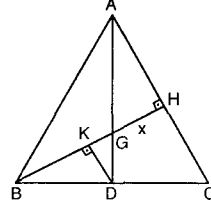
A) $18\sqrt{3}$ B) $24\sqrt{3}$ C) $36\sqrt{3}$
D) $48\sqrt{3}$ E) $64\sqrt{3}$

4. Şekilde, ABC eşkenar, $IBDI = IEBI = IEFI$, $[AB] \parallel [CH]$, $[BH] \perp [CH]$, $IAFI = 4$ cm ise, $IBHI = x$ kaç cm dir?



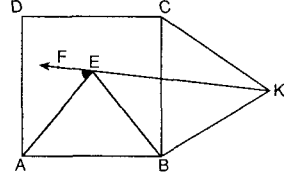
A) $2(2\sqrt{3}-2)$ B) $2(\sqrt{3}+2)$
C) $3(\sqrt{3}+2)$ D) $2(2\sqrt{3}+3)$
E) $4(\sqrt{3}-1)$

5. Şekilde ABC eşkenar üçgen, G ağırlık merkezi $[BH] \perp [AC]$, $[KD] \perp [BH]$, $IKDI = 2\sqrt{3}$ cm ise, $IGHI = x$ kaç cm dir?



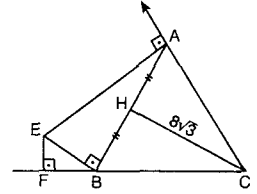
A) 4 B) 6 C) 8 D) 9 E) 12

6. Şekilde AEB ve BCK eşkenar üçgen, ABCD kare ise, $m(\hat{AEF}) = x$ kaç derecedir?



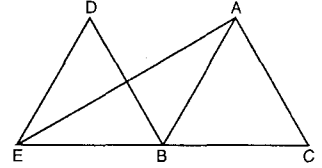
A) 45 B) 60 C) 75 D) 80 E) 85

7. Şekilde ABC eşkenar üçgen, $IAHI = IHBI$, $IHCI = 8\sqrt{3}$ cm, $[EB] \perp [AB]$, $[AE] \perp [AC]$, $[EF] \perp [FB]$ ise, $IAEI + IEFI$ kaç cm dir?



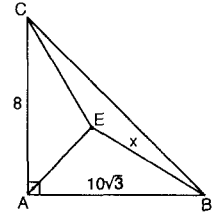
A) $6\sqrt{3}$ B) $\frac{8\sqrt{3}}{3}$ C) $9\sqrt{3}$
D) $\frac{40\sqrt{3}}{3}$ E) $\frac{16\sqrt{3}}{3}$

8. Şekilde ABC ve BED üçgenleri eşkenar üçgen, $IEDI = IBCI$, $IAEI = 8\sqrt{3}$ cm ise, üçgenlerin çevreleri toplamı kaç cm dir?



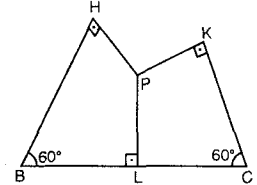
A) 36 B) 48 C) 54 D) 60 E) 66

9. Şekilde ACE eşkenar üçgen, $[CA] \perp [AB]$, $IACI = 8$ cm, $IABI = 10\sqrt{3}$ cm ise, $IEBI = x$ kaç cm dir?



A) $2\sqrt{17}$ B) $3\sqrt{17}$ C) $2\sqrt{31}$
D) $3\sqrt{31}$ E) $5\sqrt{17}$

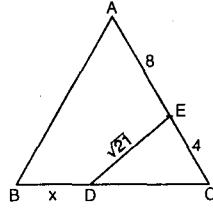
10. Şekilde $m(\hat{HBL}) = m(\hat{KCB}) = 60^\circ$, $IPHI = IPKI + IPLI = 12$ cm ise, $IBCI$ kaç cm dir?



A) $6\sqrt{3}$ B) $8\sqrt{3}$ C) $9\sqrt{3}$
D) $12\sqrt{3}$ E) $16\sqrt{3}$

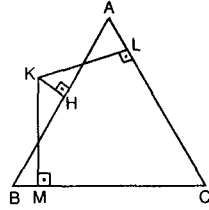
ZAFER YAYINLARI

11. Şekilde ABC eşkenar üçgen, $IAEI = 8$ cm, $IECI = 4$ cm, $IEDI = \sqrt{21}$ cm ise, $IBDI = x$ kaç cm dir?



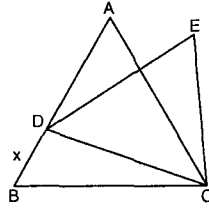
A) 7 B) 6 C) 5 D) 4 E) 3

12. Şekilde $[KH] \perp [AB]$, $[KL] \perp [AC]$, $[KM] \perp [BC]$, $IKHI = 2$ cm, $IKLI = 6$ cm, $IKMI = 5$ cm ise, $IACI$ kaç cm dir?



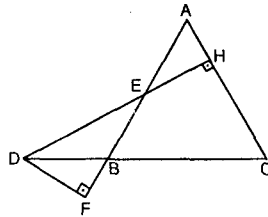
A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) $8\sqrt{3}$
D) $9\sqrt{3}$ E) $13\sqrt{3}$

13. Şekilde ABC ve CDE eşkenar üçgen, $IABI = 12$ cm, $ICEI = 11$ cm ise, $IBDI = x$ kaç cm dir?



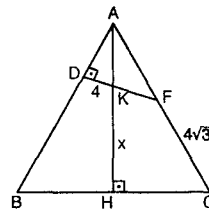
A) $6 - \sqrt{13}$ B) $5 - \sqrt{13}$ C) $4 - \sqrt{13}$
D) $\sqrt{13} - 3$ E) $\sqrt{13} - 2$

14. Şekilde ABC eşkenar üçgen, $IBC = 4\sqrt{3}$ cm, $[DH] \perp [AC]$, $[DF] \perp [AF]$ ise, $IDHI - IDFI$ kaç cm dir?



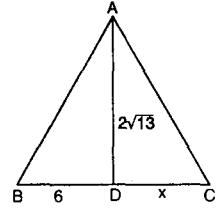
A) 4 B) 5 C) 6 D) 7 E) 8

15. Şekilde ABC eşkenar üçgen, $[DF] \perp [AB]$, $[AH] \perp [BC]$, $IDKI = 4$ cm, $IFCI = 4\sqrt{3}$ cm ise, $IKHI = x$ kaç cm dir?



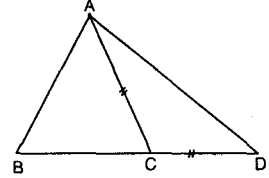
A) 7 B) 8 C) 9 D) 10 E) 12

16. Şekilde ABC eşkenar üçgen, $IBDI = 6$ cm, $IADI = 2\sqrt{13}$ cm ise, $IDCI = x$ kaç cm dir?



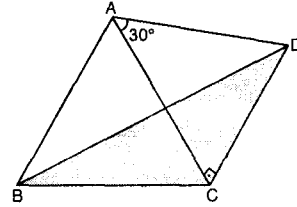
A) 6 B) 5 C) 4 D) 3 E) 2

17. Şekilde ABC eşkenar üçgen, $IACI = ICDI$, $IADI = 8\sqrt{3}$ cm ise, $\triangle ABD$ 'nin çevresi kaç cm dir?



A) $3 + \sqrt{3}$ B) $2(3 + \sqrt{3})$ C) $4(3 + \sqrt{3})$
D) $6(3 + \sqrt{3})$ E) $8(3 + \sqrt{3})$

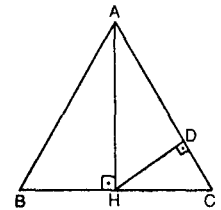
18.



Şekilde ABC eşkenar üçgen, $m(\widehat{CAD}) = 30^\circ$, $[AC] \perp [CD]$, $A(ABC) = 36\sqrt{3}$ cm² ise, $A(DBC)$ kaç cm² dir?

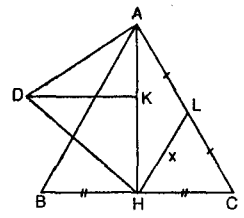
A) $8\sqrt{3}$ B) $12\sqrt{3}$ C) $16\sqrt{3}$
D) $18\sqrt{3}$ E) $36\sqrt{3}$

19. Şekilde ABC eşkenar üçgen, $[AH] \perp [BC]$, $[DH] \perp [AC]$ ise, $\frac{A(ABC)}{A(DHC)}$ oranı kaçtır?



A) 8 B) 7 C) 6 D) 5 E) 4

20. Şekilde ABC ve ADH eşkenar üçgen, $IALI = ILCI$, $IBHI = IHCI$, $[DK] \parallel [BC]$, $IDKI = 16$ cm ise, $IHLI = x$ kaç cm dir?



A) $\frac{16}{3}$ B) $\frac{24}{3}$ C) $\frac{28}{3}$ D) $\frac{31}{3}$ E) $\frac{32}{3}$

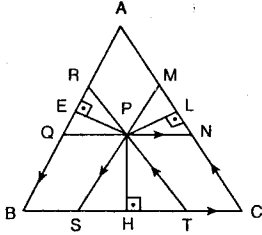
EŞKENAR ÜÇGEN

TEST 6

1. İç teğet çemberinin yarıçapı 4 cm olan eşkenar üçgenin bir kenar uzunluğu kaç cm'dir?

A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) $8\sqrt{3}$
D) $10\sqrt{3}$ E) $12\sqrt{3}$

2.



Şekildeki ABC eşkenar üçgeninin iç bölgesindeki P noktasından kenarlara paraleller çizilerek oluşturulan üçgenlerin yükseklikleri [PH], [PL], [PE] dir. $\frac{IPHI + IPEI + IPLI}{IPRI + IPTI + IPMI}$ oranı kaçtır?

A) 3 B) 2 C) $\sqrt{3}$ D) $\frac{2\sqrt{3}}{3}$ E) $\frac{\sqrt{3}}{2}$

3. Şekildeki O merkezli çember ABC eşkenar üçgeninin iç teğet çemberi ve FHLK karedir.

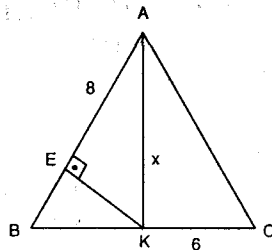
$IOHI = 2\sqrt{3}$ cm ise

$\frac{A(ABC)}{A(HFKL)}$

aşağıdakilerden hangisidir?

A) $\frac{\sqrt{3}}{2}$ B) 1 C) 2 D) $\frac{3\sqrt{3}}{2}$ E) $\frac{3\sqrt{3}}{4}$

4. Şekilde ABC eşkenar üçgen $[KE] \perp [AB]$ $IAEI = 8$ cm, $IKCI = 6$ cm ise $IAKI = x$ kaç cm'dir?

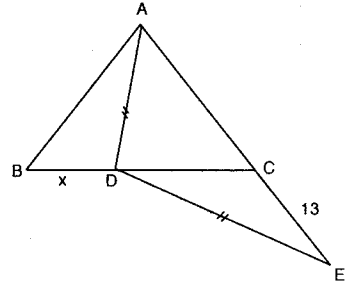


A) $\sqrt{19}$ B) $2\sqrt{19}$ C) $3\sqrt{19}$
D) $4\sqrt{19}$ E) $5\sqrt{19}$

5. Eşkenar üçgeninin çevrel çemberinin yarıçapı x cm ise eşkenar üçgenin alanı kaç x^2 cm² dir?

A) $\frac{\sqrt{3}}{2}$ B) $\frac{3\sqrt{3}}{4}$ C) $\sqrt{3}$
D) $2\sqrt{3}$ E) $3\sqrt{3}$

6.



Şekilde ABC eşkenar üçgen, $ADI = IDEI$ ve $ICEI = 13$ cm ise $IBDI = x$ kaç cm'dir?

A) 13 B) 12 C) 11 D) 10 E) 9

7. Alanı $36\sqrt{3}$ cm² olan eşkenar üçgenin içinde alınan P noktasının üçgenin kenarlarına olan uzaklıkları toplamı kaç cm'dir?

A) $2\sqrt{3}$ B) $3\sqrt{3}$ C) $4\sqrt{3}$
D) $6\sqrt{3}$ E) $8\sqrt{3}$

8. Çevrel çemberinin yarıçapı 12 cm olan eşkenar üçgenin alanı kaç cm² dir?

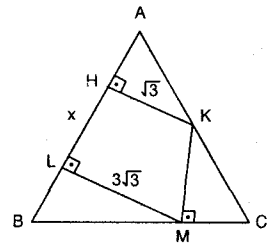
A) $108\sqrt{3}$ B) $112\sqrt{3}$ C) $120\sqrt{3}$
D) $144\sqrt{3}$ E) $196\sqrt{3}$

9. Şekilde ABC eşkenar üçgen $[ML] \perp [AB]$, $[ML] \perp [AB]$, $[KM] \perp [BC]$

$IKHI = \sqrt{3}$ cm,

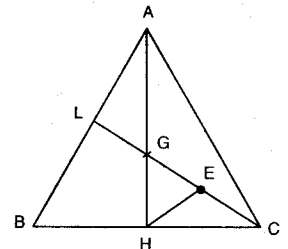
$IMLI = 3\sqrt{3}$ cm ise

$IHLI = x$ kaç cm'dir?



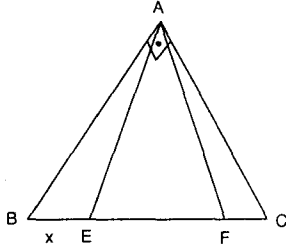
A) 2 B) 4 C) 6 D) 8 E) 10

10. Şekilde ABC ve EGH eşkenar üçgen G ağırlık merkezi ise $\frac{A(HEC)}{A(ABH)}$ oranı aşağıdakilerden hangisidir?



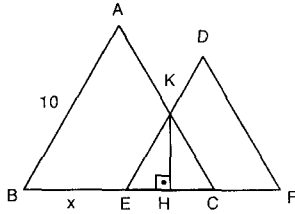
A) $\frac{2}{3}$ B) $\frac{1}{3}$ C) $\frac{1}{6}$ D) $\frac{1}{9}$ E) $\frac{1}{12}$

11. Şekilde ABC ikizkenar dik üçgen AEF eşkenar üçgendir. $IEFI = 4\sqrt{3}$ cm ise $IBEI = x$ kaç cm'dir?



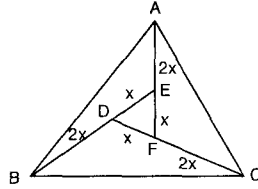
- A) $4-4\sqrt{3}$ B) $6-2\sqrt{3}$ C) $8-\sqrt{3}$
D) $6+4\sqrt{3}$ E) $8+2\sqrt{3}$

12. Şekilde ABC ve DEF eşkenar üçgen, $IKHI = 3\sqrt{3}$ cm, $IABI = 10$ cm ise $IBEI = x$ kaç cm'dir?



- A) 8 B) 6 C) 5 D) 4 E) 3

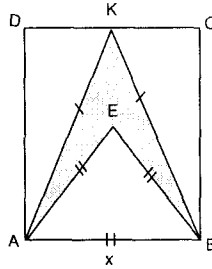
13. Şekilde ABC eşkenar üçgen $IDEI = IEFI = IDFI = x$ $IBDI = IFCI = IAEI = 2x$ ise ABC üçgeninin alanı



DEF'nin alanının kaç katıdır?

- A) 13 B) 16 C) 17 D) 18 E) 19

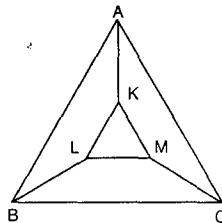
14. Şekilde ABCD kare $IABI = x$ br, AKB ikizkenar üçgen AEB eşkenar üçgen ise taralı bölgenin alanı kaç x^2 br² dir?



- A) $\frac{2+\sqrt{3}}{4}$ B) $\frac{\sqrt{3}}{4}$ C) $1 - \frac{\sqrt{3}}{4}$
D) $\frac{2-\sqrt{3}}{4}$ E) $\frac{3-\sqrt{3}}{4}$

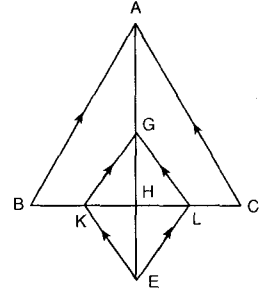
15. Şekilde ABC eşkenar üçgen

$IAKI = IBLI = ICMI = 4\sqrt{3}$ cm $IKMI = 4$ cm, $[KL], [KM], [LM]$ kenarlara paralel ise $A(ABC)$ kaç cm² dir?



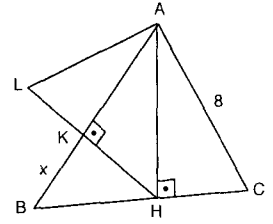
- A) $64\sqrt{3}$ B) $48\sqrt{3}$ C) $16\sqrt{3}$
D) $12\sqrt{3}$ E) $9\sqrt{3}$

16. Şekilde ABC eşkenar üçgen $[AB] \parallel [KG] \parallel [EL]$ $[AC] \parallel [GL] \parallel [KE]$ dir. G ağırlık merkezi $IABI = 12$ cm ise $A(EKGL)$ kaç cm² dir?



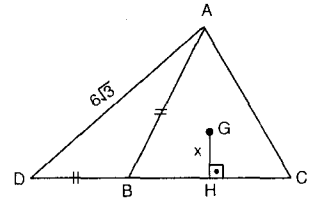
- A) $6\sqrt{3}$ B) $8\sqrt{3}$ C) $12\sqrt{3}$
D) $16\sqrt{3}$ E) $24\sqrt{3}$

17. Şekilde ABC ve AHL eşkenar üçgen $[AH] \perp [BC]$ $[AK] \perp [HL]$, $IACI = 8$ cm ise $IBKI = x$ kaç cm'dir?



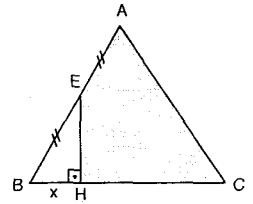
- A) 1 B) 2 C) 3 D) 4 E) 5

18. Şekilde ABC eşkenar üçgen, G ağırlık merkezi $IABI = IBDI$, $IADI = 6\sqrt{3}$ cm $[GH] \perp [BC]$ ise $IGHI = x$ kaç cm'dir?



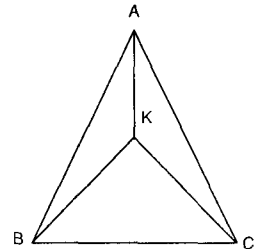
- A) $4\sqrt{3}$ B) $3\sqrt{3}$ C) $2\sqrt{3}$
D) 3 E) $\sqrt{3}$

19. Şekilde ABC eşkenar üçgen $IAEI = IEBI$, $A(AEHC) = 14\sqrt{3}$ cm² ise $IBHI = x$ kaç cm'dir?



- A) 5 B) 4 C) 3 D) 2 E) 1

20. Şekilde $IABI = IACI$ $IBKI = IKCI = IBCI$ dir. $IAKI = 2\sqrt{3}$ cm $IBCI = 8$ cm ise ABI kaç cm'dir?

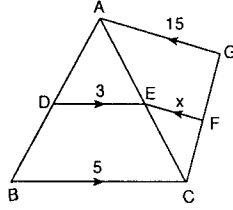


- A) $2\sqrt{31}$ B) $3\sqrt{31}$ C) $4\sqrt{31}$
D) $5\sqrt{31}$ E) $6\sqrt{31}$

ÜÇGENDE BENZERLİK

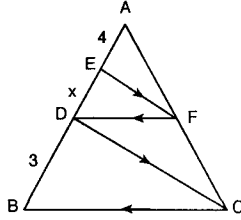
TEST 1

1. Şekilde $[DE] \parallel [BC]$,
 $[AG] \parallel [EF]$
 $IDEI = 3$ cm,
 $IBCI = 5$ cm,
 $IAGI = 15$ cm ise
 $IEFI = x$ uzunluđu kaç
 cm'dir?



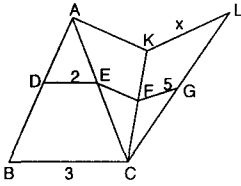
A) 5 B) 6 C) 7 D) 8 E) 9

2. Şekilde $[EF] \parallel [DC]$,
 $[DF] \parallel [BC]$
 $IAEI = 4$ cm
 $IBDI = 3$ cm ise
 $IDEI = x$ uzunluđu kaç
 cm'dir?



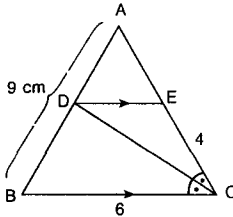
A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

3. Şekilde $[DE] \parallel [BC]$,
 $[EF] \parallel [AK]$
 $[FG] \parallel [KL]$,
 $IDEI = 2$ cm
 $IBCI = 3$ cm
 $IFGI = 5$ cm ise
 $IKLI = x$ uzunluđu kaç
 cm'dir?



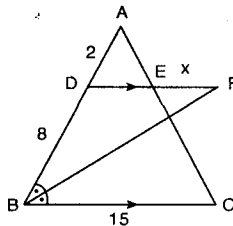
A) 6 B) 8 C) 10 D) 12 E) 15

4. Şekilde $[DE] \parallel [BC]$
 $[CD]$ açıortay
 $IECI = 4$ cm
 $IBCI = 6$ cm
 $IABI = 9$ cm ise
 $\triangle ADE$ nin çevresi
 kaç cm'dir?



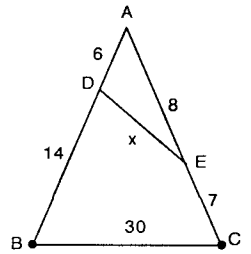
A) 18 B) 16 C) 14 D) 12 E) 9

5. Şekilde $[DE] \parallel [BC]$
 $IADI = 2$ cm
 $IBDI = 8$ cm,
 $IBCI = 15$ cm
 $[BF]$, B'nin açıortayı ise
 $IEFI = x$ uzunluđu kaç
 cm'dir?



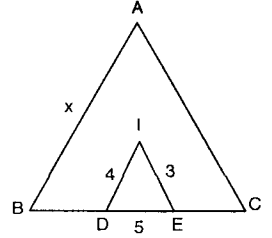
A) 2 B) 3 C) 4 D) 5 E) 6

6. Şekilde $IADI = 6$ cm
 $IAEI = 8$ cm
 $IBDI = 14$ cm
 $IECI = 7$ cm
 $IBCI = 30$ cm ise
 $IDEI = x$ kaç cm'dir?



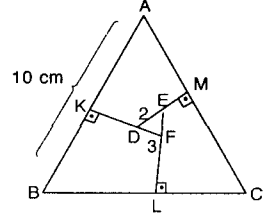
A) 14 B) 12 C) 10 D) 9 E) 8

7. Şekilde I, $\triangle ABC$
 üçgeninin iç
 açıortaylarının kesim
 noktası
 $[ID] \parallel [AB]$
 $[IE] \parallel [AC]$
 $IIDI = 4$ cm,
 $IDEI = 5$ cm,
 $IIEI = 3$ cm ise
 $IABI = x$ uzunluđu kaç cm'dir?



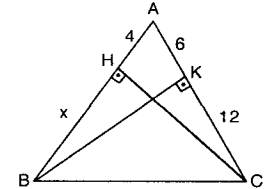
A) 6,4 B) 7,3 C) 8,2 D) 9,6 E) 11,2

8. Şekilde $[KD] \perp [AB]$
 $[DM] \perp [AC]$,
 $[EL] \perp [BC]$ dir.
 $IDEI = 2$ cm,
 $IDFI = 3$ cm,
 $IABI = 10$ cm ise $IACI$
 uzunluđu kaç
 cm'dir?



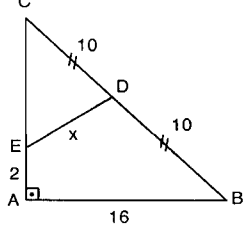
A) $\frac{8}{3}$ B) $\frac{10}{3}$ C) $\frac{14}{3}$ D) $\frac{17}{3}$ E) $\frac{20}{3}$

9. Şekilde $[BK] \perp [AC]$,
 $[AB] \perp [CH]$
 $IACHI = 4$ cm,
 $IAKI = 6$ cm,
 $ICKI = 12$ cm ise
 $IBHI = x$ kaç cm'dir?



A) 19 B) 20 C) 21 D) 22 E) 23

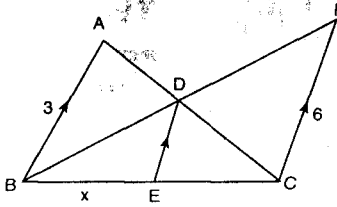
10. Şekilde $m(\hat{CAB}) = 90^\circ$,
 $IAEI = 2$ cm
 $IABI = 16$ cm,
 $ICDI = IBDI = 10$ cm
 $IDEI = x$ uzunluđu kaç
 cm'dir?



A) $2\sqrt{5}$ B) $4\sqrt{5}$ C) $5\sqrt{5}$
 D) $6\sqrt{5}$ E) $8\sqrt{5}$

ZAFER YAYINLARI

11.

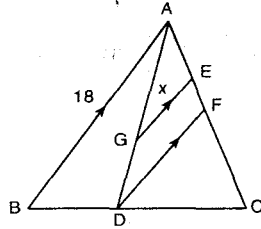


Şekilde $[AB] \parallel [DE] \parallel [FC]$, $AB=3$ cm, $AC=6$ cm, $BC=12$ cm ise $BE= x$ uzunluğu kaç cm'dir?

- A) 3 B) 4 C) 5 D) 6 E) 7

12.

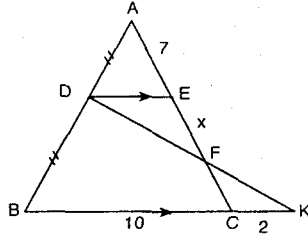
Şekilde $[AB] \parallel [GE] \parallel [DF]$
 $AB=18$ cm,
 G Ağırlık merkezi ise
 $GE= x$ kaç cm'dir?



- A) 4 B) 5 C) 6 D) 8 E) 9

13.

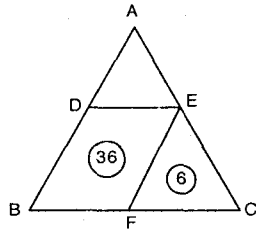
Şekilde $AD=BD$,
 $[DE] \parallel [BC]$
 $AE=7$ cm,
 $BC=10$ cm,
 $CK=2$ cm ise
 $EF= x$
 uzunluğu kaç
 cm'dir?



- A) 4 B) 5 C) 6 D) 7 E) 8

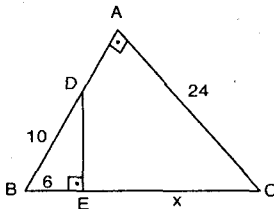
14.

Şekilde $[DE] \parallel [BC]$,
 $[BA] \parallel [FE]$ dir.
 $A(FC)=6$ cm²
 $A(BFED)=36$ cm²
 ise $A(ADE)$ kaç
 cm²dir?



- A) 42 B) 48 C) 52 D) 54 E) 56

15.

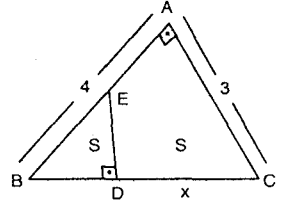


Şekilde $m(\hat{BAC}) = m(\hat{BED}) = 90^\circ$, $BD=10$ cm,
 $BE=6$ cm, $AC=24$ cm ise $EC= x$ uzunluğu
 kaç cm'dir?

- A) 18 B) 22 C) 24 D) 28 E) 30

16.

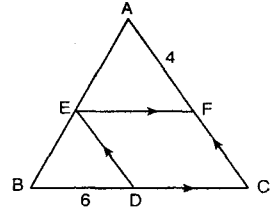
Şekilde $AB=4$ cm,
 $AC=3$ cm
 $m(\hat{BDE}) = 90^\circ$,
 $m(\hat{BAC}) = 90^\circ$
 $A(BED) = A(AEDC)$
 ise $DC= x$
 uzunluğu kaç cm'dir?



- A) $4-\sqrt{2}$ B) $5-\sqrt{2}$ C) $5-2\sqrt{2}$
 D) $4-\sqrt{3}$ E) $4-2\sqrt{3}$

17.

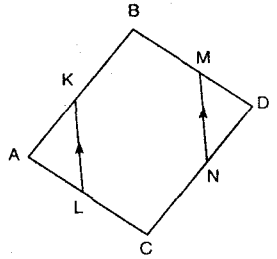
Şekilde $[DE] \parallel [AC]$,
 $[EF] \parallel [BC]$
 $BD=6$ cm
 $AF=4$ cm
 $\frac{AE}{AB} = \frac{2}{5}$ ise $A(EFCD)$
 kaç cm'dir?



- A) 20 B) 18 C) 15 D) 14 E) 12

18.

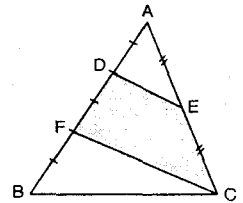
Şekilde $[KL] \parallel [MN]$,
 K, L, M, N orta
 noktalar,
 $A(KLCNMB)=36$ br²
 ise $A(\triangle AKL) + A(\triangle DMN)$
 kaç br²dir?



- A) 9 B) 12 C) 15 D) 16 E) 18

19.

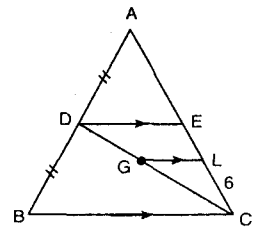
Şekilde ABC üçgeninde
 $AE=EC$
 $AD=DF=FB$,
 $\frac{A(FCED)}{A(ABC)}$ oranı
 aşağıdakilerden han-
 gisidir?



- A) $\frac{2}{7}$ B) $\frac{2}{5}$ C) $\frac{2}{3}$ D) $\frac{1}{2}$ E) $\frac{1}{3}$

20.

Şekilde $[DE] \parallel [GL] \parallel [BC]$ dir.
 G Ağırlık merkezi
 $LC=6$ cm ise AC
 uzunluğu kaç cm'dir?



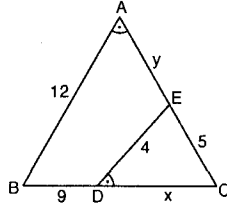
- A) 14 B) 15 C) 16 D) 17 E) 18

ÜÇGENDE BENZERLİK

TEST 2

1. Şekilde,

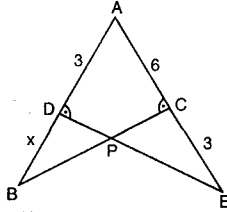
$m(\hat{BAC}) = m(\hat{EDC})$,
 $IABI = 12$ cm,
 $IBDI = 9$ cm,
 $IECI = 5$,
 $IAEI = y$,
 $IDCI = x$ ise,
 $2x + y$ kaçtır?



- A) 20 B) 22 C) 23 D) 24 E) 25

2. Şekilde,

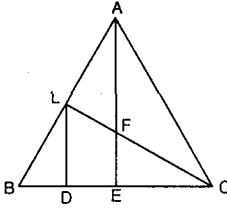
$m(\hat{ADE}) = m(\hat{ACB})$,
 $IADI = ICEI = 3$ cm
 $IACI = 6$ cm ise,
 $IBDI = x$ uzunluğu kaç
 cm dir?



- A) 15 B) 12 C) 9 D) 8 E) 6

3. Şekilde,

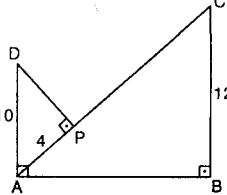
ABC üçgeninde
 $IDEI = 6$ cm,
 $IBDI = ILDI$,
 $IAEI = 14$ cm,
 $[DL] \parallel [AE]$ ise,
 $IBDI$ uzunluğu kaç cm
 dir?



- A) 6 B) 7 C) 8 D) 9 E) 10

4. Şekilde $m(\hat{DPA}) = 90^\circ$

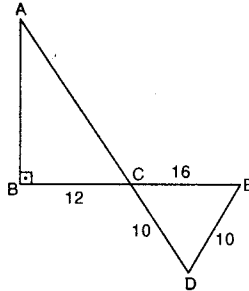
$m(\hat{DAB}) = m(\hat{ABC}) = 90^\circ$
 $IADI = 10$ cm,
 $IPAI = 4$ cm,
 $IBCI = 12$ cm ise,
 $IPCI$ uzunluğu kaç cm
 dir?



- A) 18 B) 21 C) 22 D) 24 E) 26

5. Şekilde,

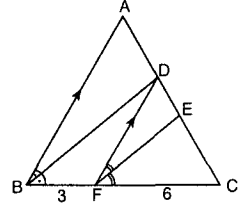
$IBCI = 12$
 $ICDI = IDEI = 10$ cm,
 $ICEI = 16$ cm ise,
 $IABI$ uzunluğu kaç
 cm dir?



- A) 9 B) 10 C) 12 D) 15 E) 16

6. Şekilde,

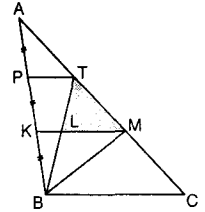
$[BD]$ ve $[FE]$ açıortay,
 $[AB] \parallel [DF]$,
 $IBFI = 3$ cm,
 $IACI = 12$ cm,
 $IFCI = 6$ cm ise,
 $IABI + IECI$ uzunluğu
 kaç cm dir?



- A) $\frac{37}{6}$ B) $\frac{43}{6}$ C) $\frac{47}{6}$ D) $\frac{49}{6}$ E) $\frac{59}{6}$

7. Şekilde,

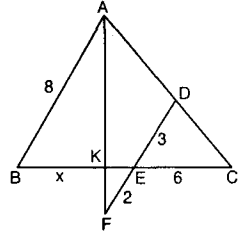
$IAPI = IPKI = IKBI$,
 $[PT] \parallel [KM] \parallel [BC]$,
 $A(MLT) = 9$ cm² ise,
 $A(ABC)$ kaç cm² dir?



- A) 42 B) 48 C) 54 D) 56 E) 62

8. Şekilde,

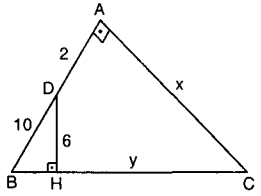
$[DF] \parallel [AB]$,
 $IABI = 8$ cm,
 $IEFI = 2$ cm,
 $IDEI = 3$ cm,
 $IECI = 6$ cm ise,
 $IKBI = x$ kaç cm dir?



- A) 12 B) 10 C) 8 D) 6 E) 4

9. Şekilde,

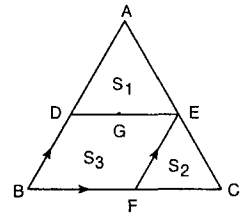
$IABI = 12$ cm,
 $IBDI = 10$ cm,
 $IHCI = y$,
 $IACI = x$ ve
 $m(\hat{BHD}) = m(\hat{BAC}) = 90^\circ$
 ise, $x + y$ kaç cm dir?



- A) 16 B) 15 C) 14 D) 13 E) 12

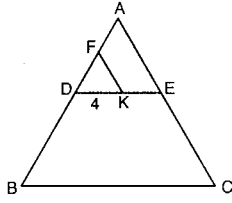
10. Şekilde,

G ağırlık merkezi,
 $[DE] \parallel [BC]$,
 $S_1 + S_2 = 20$ br² ise,
 S_3 alanı kaç br² dir?



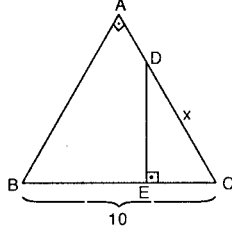
- A) 8 B) 9 C) 10 D) 12 E) 16

11. Şekilde,
 $[FK] \parallel [AC]$,
 $[DE] \parallel [BC]$ dir,
 $IDKI = 4$ cm,
 $IAEI = 3IFKI$,
 $2IAEI = 3IECI$ ise,
 IBC kaç cm dir?



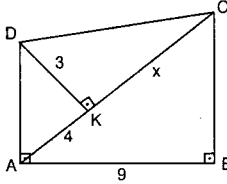
A) 8 B) 12 C) 16 D) 20 E) 24

12. Şekildeki ABC
 üçgeninde
 $A(ADEB) = 3A(DEC)$,
 $IBC = 10$ cm,
 $m(\hat{A}) = m(\hat{E}) = 90^\circ$ ise,
 $IDCI = x$ kaç cm dir?



A) 8 B) 7 C) 6 D) 5 E) 4

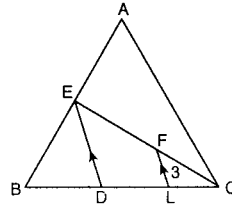
13.



Şekilde, $m(\hat{D}KC) = m(\hat{D}AB) = m(\hat{ABC}) = 90^\circ$
 $IAKI = 4$ cm, $IDKI = 3$ cm, $IABI = 9$ cm ise,
 $IKCI = x$ kaç cm dir?

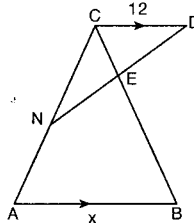
A) 9 B) 10 C) 11 D) 12 E) 13

14. Şekildeki ABC üçge-
 ninde,
 $IFLI = 3$ cm,
 $[FL] \parallel [DE] \parallel [AC]$,
 $2IFCI = IEFI$,
 $2IBEI = 3IAEI$ ise,
 $IACI$ kaç cm dir?



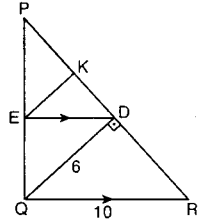
A) 12 B) 13 C) 14 D) 15 E) 16

15. Şekilde,
 $[CD] \parallel [AB]$,
 $ICDI = 12$ cm
 $IDEI = 4INEI$,
 $IANI = 5ICNI$ ise,
 $IABI = x$ kaç cm dir?



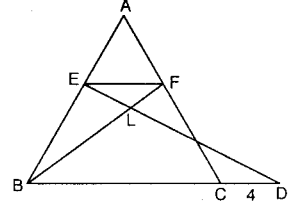
A) 11 B) 12 C) 13 D) 15 E) 18

16. Şekilde,
 $[DE] \parallel [QR]$,
 $IQRI = 10$ cm,
 $IQDI = 6$ cm,
 $[EK] \parallel [QD]$,
 $IPEI = 4IEQI$ ise,
 $IKPI$ kaç cm dir?



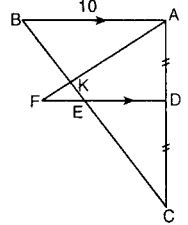
A) 25,6 B) 24,6 C) 23,8 D) 22,4 E) 19,2

17. Şekilde,
 E, F orta noktalar,
 $\frac{IBLI}{IFLI} = \frac{5}{2}$,
 $ICDI = 4$ cm ise,
 $IBCI$ kaç cm dir?



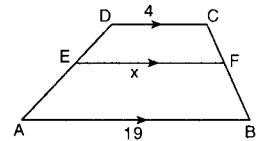
A) 15 B) 16 C) 17 D) 18 E) 20

18. Şekilde,
 $[AB] \parallel [DF]$,
 $IADI = IDC I$,
 $\frac{IAKI}{IKFI} = \frac{5}{2}$ ve
 $IABI = 10$ cm ise,
 $IDFI$ kaç cm dir?



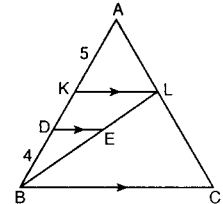
A) 6 B) 7 C) 8 D) 9 E) 10

19. Şekilde,
 $[DC] \parallel [EF] \parallel [AB]$,
 $IDCI = 4$ cm,
 $IABI = 19$ cm,
 $3ICFI = 2IFBI$ ise,
 $IEFI$ kaç cm dir?



A) 8 B) 9 C) 10 D) 12 E) 15

20. Şekilde,
 $[KL] \parallel [DE] \parallel [BC]$ dir.
 $IBDI = 4$ cm,
 $IAKI = 5$ cm,
 $IKLI = 10$ cm,
 $2IKLI = 5IDEI$ ise,
 $IBCI$ kaç cm dir?



A) 36 B) 30 C) 24 D) 18 E) 15

ÜÇGENDE BENZERLİK

TEST

3

1. Şekilde $|ABI| = y$,

$$|DEI| = x,$$

$$[DE] \parallel [AB]$$

x ile y arasında

$$2y^2 - xy - 3x^2 = 0$$

bağıntısı varsa

$\frac{A(DEC)}{A(BDEA)}$ oranı kaçtır?

- A) $\frac{1}{5}$ B) $\frac{2}{5}$ C) $\frac{3}{5}$ D) $\frac{4}{5}$ E) $\frac{7}{5}$

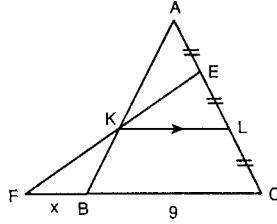
2. Şekilde

$$|AEI| = |ELI| = |ILCI|$$

$$[KL] \parallel [FC],$$

$$|BCI| = 9 \text{ cm}$$

ise $|BFI| = x$ kaç cm'dir?



- A) 1 B) 2 C) 3 D) 4 E) 5

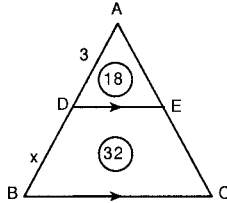
3. Şekilde $[DE] \parallel [BC]$

$$A(ADE) = 18 \text{ br}^2,$$

$$|ADI| = 3 \text{ br}$$

$A(BDEC) = 32 \text{ br}^2$ ise

$|BDI| = x$ kaç br'dir?



- A) 1 B) 2 C) 3 D) 4 E) 5

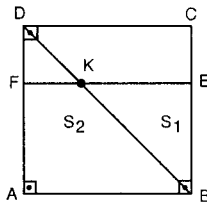
4. Şekilde ABCD kare

$$|BEI| = 3 \text{ cm}, |CEI| = 1 \text{ cm}$$

$$S_1 = A(BEK),$$

$$S_2 = A(ABKF) \text{ ise } \frac{S_1}{S_2} \text{ oranı}$$

kaçtır?

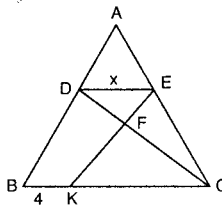


- A) $\frac{3}{5}$ B) $\frac{4}{5}$ C) 1 D) 2 E) 3

5. Şekilde D, E orta

$$\text{noktalar } \frac{|EFI|}{|EKI|} = \frac{2}{5},$$

$|BKI| = 4 \text{ cm}$ ise $|DEI| = x$ kaç cm'dir?



- A) 5 B) 6 C) 7 D) 8 E) 9

6. Şekilde ABCD kare

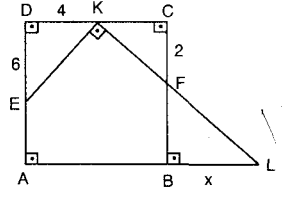
$$m(\hat{EKL}) = 90^\circ$$

$$|DEI| = 6 \text{ cm},$$

$$|DKI| = 4 \text{ cm}$$

$$|CFI| = 2 \text{ cm} \text{ ise}$$

$|BLI| = x$ kaç cm'dir?



- A) 5 B) 6 C) 7,5 D) 8 E) 8,5

7. Şekilde

$$[ED] \perp [BC]$$

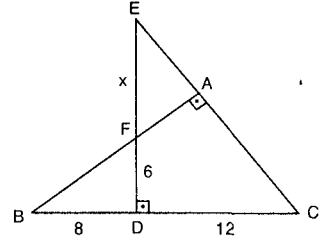
$$[AB] \perp [EC],$$

$$|BDI| = 8 \text{ cm}$$

$$|FDI| = 6 \text{ cm},$$

$$|DCI| = 12 \text{ cm}$$

ise $|EFI| = x$ kaç cm'dir?



- A) 6 B) 7 C) 8 D) 9 E) 10

8. Şekilde

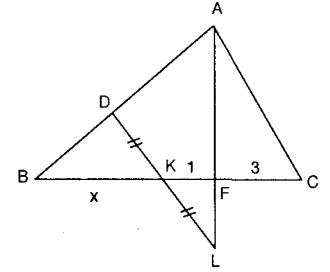
$$[DL] \parallel [AC],$$

$$|DKI| = |KLI|,$$

$$|KFI| = 1 \text{ cm}$$

$$|FCI| = 3 \text{ cm} \text{ ise}$$

$|BKI| = x$ kaç cm'dir?



- A) 2 B) 3 C) 4 D) 5 E) 6

9. Şekilde

$$|AKI| = |KBI|,$$

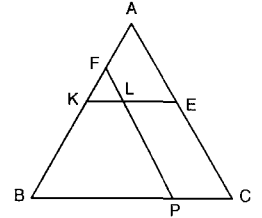
$$[PF] \parallel [AC]$$

$$|AEI| = |ECI|,$$

$$|LEI| = 3|KLI|$$

$$A(ECPL) = 36 \text{ br}^2 \text{ ise}$$

$A(BPLK)$ kaç br^2'dir?



- A) 24 B) 36 C) 42 D) 48 E) 54

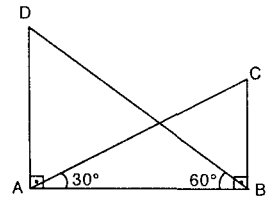
10. Şekilde $[AD] \perp [AB]$

$$[BC] \perp [AB],$$

$$m(\hat{CAB}) = 30^\circ$$

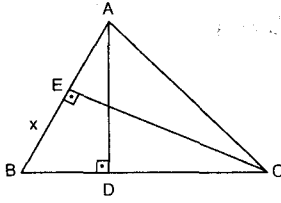
$$m(\hat{ABD}) = 60^\circ \text{ ise}$$

$\frac{|ADI|}{|BCI|}$ oranı kaçtır?



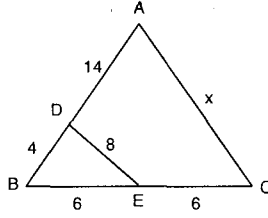
- A) 1 B) 2 C) 3 D) 4 E) 5

11.



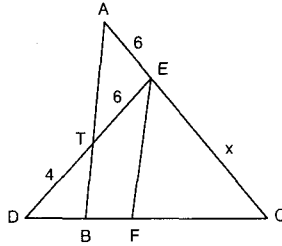
Şekilde $m(\hat{BEC}) = m(\hat{BDA}) = 90^\circ$ $IECI = 16$ cm,
 $ADI = 12$ cm $BDI = 4$ cm $IEBI = x$ kaç cm'dir?

- A) $\frac{13}{3}$ B) $\frac{14}{3}$ C) $\frac{16}{3}$ D) $\frac{17}{3}$ E) 6

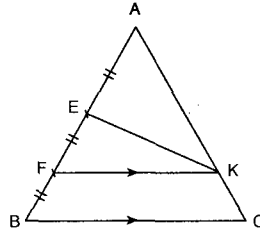
12. Şekilde $BDI = 4$ cm $IEBI = IECI = 6$ cm $ADI = 14$ cm $IDEI = 8$ cm ise $IACI = x$ kaç cm'dir?

- A) 12 B) 13 C) 14 D) 16 E) 24

13. Şekilde

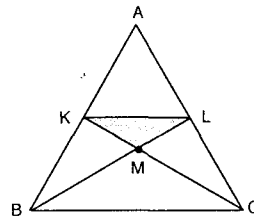
 $[AB] \parallel [EF]$, $IDFI = IFCI$ $IAEI = IETI = 6$ cm $ITDI = 4$ cm ise $IECI = x$ kaç cm'dir?

- A) 7 B) 8 C) 9 D) 10 E) 12

14. Şekilde $[FK] \parallel [BC]$ $IAEI = IEFI = IFBI$, $A(BCKF) = 90$ br²ise $A(AEK)$ kaç br²dir?

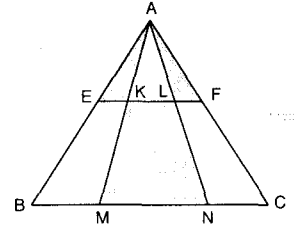
- A) 56 B) 48 C) 45 D) 42 E) 36

15. Şekilde K ve L orta noktalar ise $\frac{A(KML)}{A(ABC)}$ oranı kaçtır?



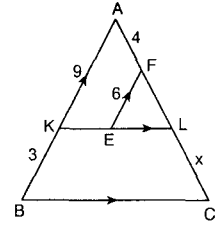
- A) $\frac{1}{3}$ B) $\frac{1}{12}$ C) $\frac{1}{16}$
D) $\frac{1}{24}$ E) $\frac{1}{36}$

16. Şekildeki ABC üçgeninde E, F orta noktalar $IBMI = IMNI = INCI$ $A(NCFL) = 18$ cm² ise taralı alanlar toplamı kaç cm²dir?



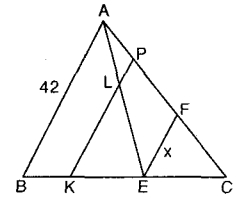
- A) 60 B) 45 C) 30 D) 24 E) 15

17. Şekilde $[EF] \parallel [AK]$, $[KL] \parallel [BC]$

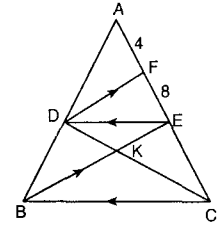
 $IAFI = 4$ cm, $IEFI = 6$ cm, $IAKI = 9$ cm $IBKI = 3$ cm ise $ILCI = x$ kaç cm'dir?

- A) 1 B) 2 C) 3 D) 4 E) 5

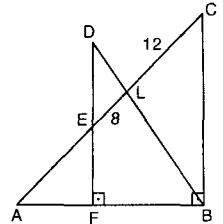
18. Şekilde

 $IECI = \frac{IBKI}{3} = \frac{IKEI}{2}$, $[AB] \parallel [KP] \parallel [EF]$ $IABI = 42$ cmise $IEFI = x$ kaç cm'dir?

- A) 5 B) 6 C) 7 D) 8 E) 9

19. Şekilde $[DF] \parallel [BE]$, $[DE] \parallel [BC]$ $IAFI = 4$ cm, $IEFI = 8$ cm ise $\frac{IKEI}{IDFI}$ oranı kaçtır?

- A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{2}{3}$ D) $\frac{3}{4}$ E) $\frac{4}{5}$

20. Şekilde $[DF] \perp [AB]$ $[BC] \perp [AB]$, $IDEI = 2IEFI$, $IELI = 8$ cm $ILCI = 12$ cm ise $IAEI$ kaç cm'dir?

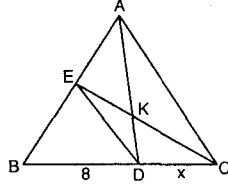
- A) 8 B) 10 C) 12 D) 13 E) 14

ÜÇGENDE BENZERLİK

TEST

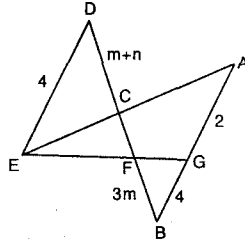
4

1. ABC üçgeninde,
[DE] // [AC],
2IKCI = 5IEKI,
IBDI = 8 cm ise,
IDCI = x kaç cm dir?



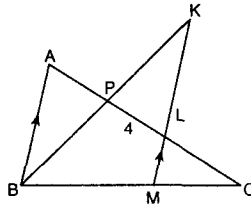
A) 8 B) 10 C) 12 D) 13 E) 15

2. Şekilde,
[DE] // [AB],
IDEI = IBGI = 4,
IAGI = 2,
IDCI = m + n,
IFBI = 3m ise,
 $\frac{m}{n}$ oranı kaçtır?



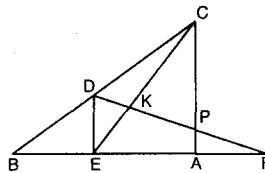
A) $\frac{5}{7}$ B) $\frac{7}{5}$ C) 2 D) 3 E) $\frac{10}{3}$

3. Şekilde,
[AB] // [KM],
IKLI = IMLI,
3IMLI = IABI,
IPLI = 4 cm ise,
IACI kaç cm dir?



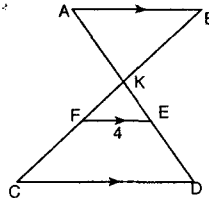
A) 12 B) 14 C) 16 D) 18 E) 24

4. Şekilde,
[DE] // [CA] dir.
2IBEI = IAEI = IAFI
ise,
 $\frac{IKDI}{IKPI}$ oranı nedir?



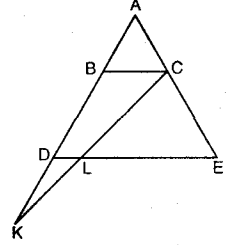
A) $\frac{1}{3}$ B) $\frac{2}{5}$ C) $\frac{2}{3}$ D) 1 E) 2

5. Şekilde,
[AB] // [FE] // [CD] dir.
IFEI = 4 cm,
3IKEI = IDEI,
2IDEI = 3IAKI ise,
IABI + ICDI kaç cm dir?



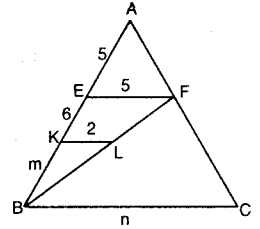
A) 16 B) 18 C) 24 D) 26 E) 28

6. Şekilde,
[BC] // [DE],
IAKI = 6IABI = 2IBDI dir.
Buna göre $\frac{IBC}{ILE}$ oranı
kaçtır?



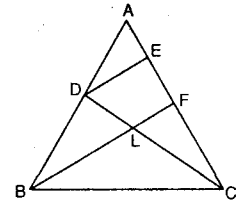
A) $\frac{1}{18}$ B) $\frac{1}{9}$ C) $\frac{2}{9}$ D) $\frac{5}{18}$ E) $\frac{7}{18}$

7. Şekilde,
[KL] // [EF] // [BC],
dir. IKLI = 2 cm,
IEFI = IAEI = 5 cm,
IBKI = m,
IBCI = n ise,
m + n kaç cm dir?



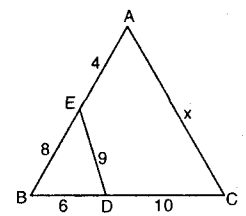
A) 15 B) 16 C) 17 D) 18 E) 19

8. Şekilde,
[DE] // [BF],
3IDL = 2ILCI,
IFAI = 2IFCI ise,
 $\frac{IADI}{IABI}$ oranı aşağıdaki-
lerden hangisidir?



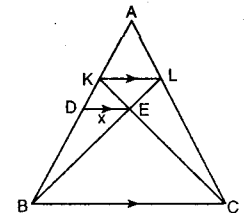
A) $\frac{1}{6}$ B) $\frac{1}{4}$ C) $\frac{1}{3}$ D) $\frac{2}{3}$ E) $\frac{4}{3}$

9. Şekilde,
IBEI = 8 cm,
IBDI = 6 cm,
IDCI = 10 cm,
IDEI = 9 cm,
IEAI = 4 cm ise,
IACI = x uzunluğu kaç
cm dir?



A) 18 B) 16 C) 14 D) 12 E) 9

10. Şekilde,
[KL] // [DE] // [BC],
dir. 2IBEI = 5IELI,
IBCI + IKLI = 14 cm ise,
IDEI = x kaç cm dir?



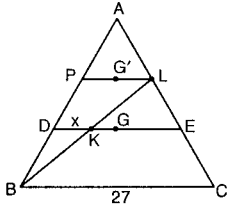
A) $\frac{5}{7}$ B) $\frac{8}{7}$ C) $\frac{10}{7}$ D) $\frac{20}{7}$ E) $\frac{22}{7}$

ZAFER YAYINLARI

11. Şekilde,
[PL] // [DE] // [BC] dir.

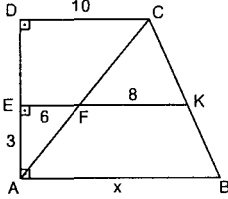
G, ABC nin,

G' ADE nin ağırlık merkezi
IBC = 27 cm ise,
IKDI = x kaç cm dir?



- A) 4,5 B) 7,2 C) 7,4 D) 7,5 E) 8,5

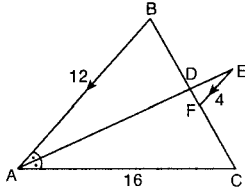
12.



Şekilde, $m(\widehat{EAB}) = m(\widehat{KEA}) = m(\widehat{CDE}) = 90^\circ$
IAEI = 3 cm, IEFI = 6 cm, IDCI = 10 cm,
IFKI = 8 cm ise, IABI = x kaç cm dir?

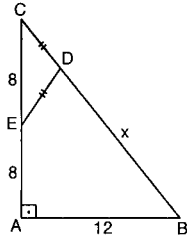
- A) 12 B) 14 C) 15 D) 18 E) 20

13. Şekilde,
[AB] // [FE],
[AD] açıortay,
IABI = 12 cm,
IACI = 16 cm,
IBCI = 14 cm ise,
ICFI - IFDI farkı kaç
cm dir?



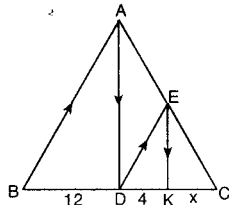
- A) 1 B) 2 C) 3 D) 4 E) 5

14. Şekilde,
 $m(\widehat{BAC}) = 90^\circ$,
ICDI = IDEI,
ICEI = IAEI = 8 cm,
IABI = 12 cm ise,
IBDI = x kaç cm dir?



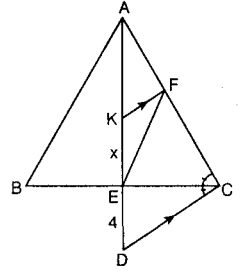
- A) 12 B) 13 C) 15 D) 18 E) 20

15. Şekilde,
[DE] // [AB],
[AD] // [KE] dir.
IBDI = 12 cm,
IKDI = 4 cm ise,
IKCI = x kaç cm dir?



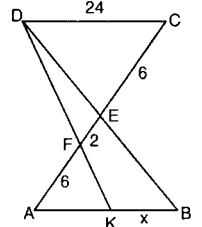
- A) 1 B) 2 C) 3 D) 4 E) 5

16. Şekilde,
[DC] // [KF],
[EF] // [AB],
[CE] açıortay,
ICAI = 3,
ICDI = 3,
 $IEFI = \frac{IABI}{2}$, IDEI = 4 cm
ise, IKEI = x kaç cm
dir?



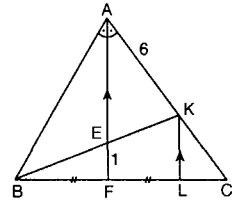
- A) 6 B) $\frac{36}{7}$ C) 5 D) 4 E) $\frac{27}{7}$

17. Şekilde,
[DC] // [AB],
IDCI = 24 cm,
ICEI = IAFI = 6 cm,
IFEI = 2 cm ise,
IKBI = x kaç cm dir?



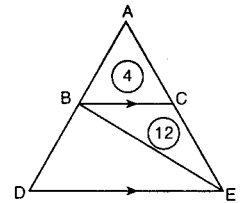
- A) 8 B) 9 C) 10
D) 12 E) 14

18. Şekilde ABC üçgeninde
[AF] açıortay,
[AF] // [KL],
IBFI = IFLI = 2ILCI,
IEFI = 1 cm
IAKI = 6 cm ise,
IBCI kaç cm dir?



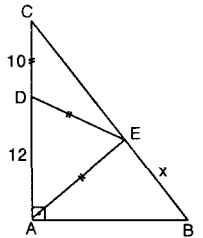
- A) $5\sqrt{3}$ B) $5\sqrt{5}$ C) $6\sqrt{3}$
D) $7\sqrt{3}$ E) $8\sqrt{3}$

19. Şekilde ABC üçgeninde,
[BC] // [DE],
 $A(ABC) = 4 \text{ cm}^2$,
 $A(BCE) = 12 \text{ cm}^2$ ise,
 $A(ADE)$ kaç cm^2 dir?



- A) 64 B) 56 C) 48 D) 45 E) 42

20. ABC dik üçgeninde,
ICDI = IDEI = IAEI = 10 cm
IADI = 12 cm ise,
IEBI = x kaç cm dir?



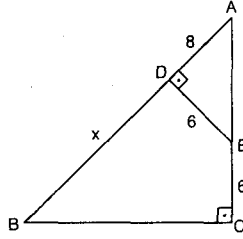
- A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $3\sqrt{5}$
D) $4\sqrt{5}$ E) $5\sqrt{5}$

ÜÇGENDE BENZERLİK

TEST

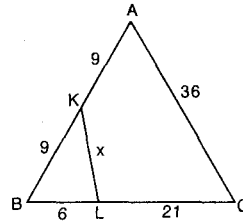
5

1. ABC ve ADE dik üçgen,
 $IDEI = IECI = 6$ cm,
 $IADI = 8$ cm ise,
 $IBDI = x$ kaç cm dir?



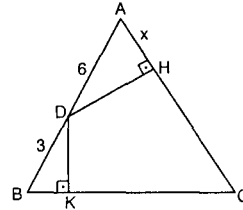
A) 6 B) 8 C) 9 D) 10 E) 12

2. Şekilde,
 $IBKI = IAKI = 9$ cm,
 $IBLI = 6$ cm,
 $ILCI = 21$ cm,
 $IACI = 36$ cm dir.
 Buna göre, $IKLI = x$
 kaç cm dir?



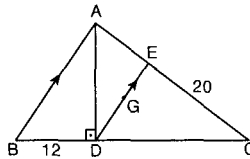
A) 9 B) 10 C) 12 D) 16 E) 18

3. ABC üçgeninde
 $IADI = 6$ cm,
 $IBDI = 3$ cm,
 $IACI = IBCI$,
 $[DH] \perp [AC]$,
 $[DK] \perp [BC]$,
 $m(\widehat{BAC}) = m(\widehat{ACB})$
 $IDKI + IDHI = 6$ cm ise,
 $IAHI = x$ uzunluğu kaç cm dir?



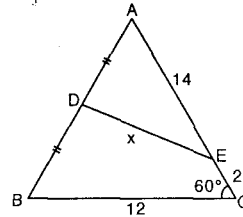
A) $2\sqrt{5}$ B) $\sqrt{5}$ C) $\sqrt{5}-1$
 D) $\sqrt{5}-2$ E) $\sqrt{5}-\sqrt{2}$

4. Şekilde,
 $[AD] \perp [BC]$,
 G ağırlık merkezi,
 $[DE] \parallel [AB]$,
 $IBDI = 12$ cm,
 $IECI = 20$ cm ise,
 $IDEI$ kaç cm dir?



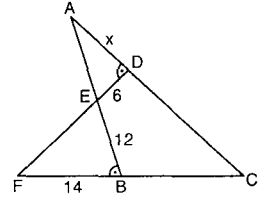
A) $\sqrt{13}$ B) $2\sqrt{13}$ C) $3\sqrt{13}$
 D) $4\sqrt{13}$ E) $5\sqrt{13}$

5. Şekilde,
 $IADI = IBDI$,
 $IBCI = 12$ cm,
 $IAEI = 14$ cm,
 $IECI = 2$ cm,
 $m(\widehat{C}) = 60^\circ$ ise,
 $IDEI = x$ kaç cm dir?



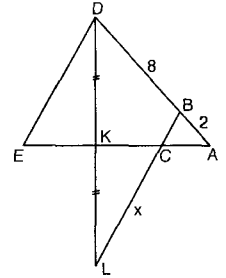
A) $2\sqrt{3}$ B) $3\sqrt{3}$ C) $4\sqrt{3}$
 D) $5\sqrt{3}$ E) $6\sqrt{3}$

6. Şekilde,
 $m(\widehat{ADE}) = m(\widehat{EBF})$ dir.
 $IDEI = 6$ cm,
 $IBEI = 12$ cm,
 $IFBI = 14$ cm ise,
 $IADI = x$ kaç cm dir?



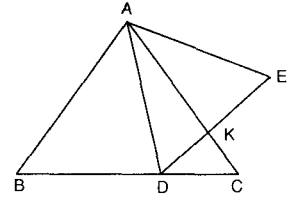
A) 5 B) 6 C) 7 D) 8 E) 9

7. Şekilde,
 $[BL] \parallel [DE]$,
 $IKDI = IKLI$,
 $IABI = 2$ cm,
 $IBCI = 3$ cm,
 $IBDI = 8$ cm ise,
 $ICLI = x$ kaç cm dir?



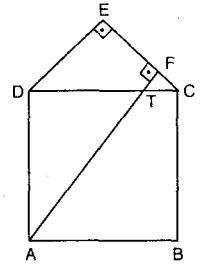
A) 12 B) 15 C) 16 D) 17 E) 18

8. $\triangle ABC$ ve $\triangle ADE$
 eşkenar
 $IABI = 16$ cm,
 $IBDI = 12$ cm ise
 $IKCI$ kaç cm'dir?



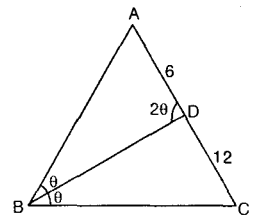
A) 8 B) 6 C) 5 D) 4 E) 3

9. ABCD kare
 $[DE] \perp [EC]$
 $[AF] \perp [EC]$
 $IDEI = 6$ cm
 $IECI = 12$ cm ise
 $ITCI$ kaç cm'dir?



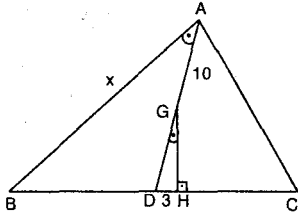
A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $3\sqrt{5}$
 D) $6\sqrt{3}-4$ E) $6\sqrt{5}-2$

10. Şekilde,
 $m(\widehat{ABD}) = m(\widehat{CBD}) = \theta$,
 $m(\widehat{ADB}) = 2\theta$,
 $IADI = 6$ cm,
 $IDCI = 12$ cm ise,
 $IABI$ kaç cm dir?



A) $2\sqrt{3}$ B) $3\sqrt{3}$ C) $4\sqrt{3}$
 D) $6\sqrt{3}$ E) $7\sqrt{3}$

11.

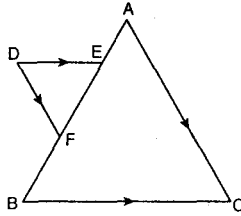


Şekilde, $m(\widehat{BAD}) = m(\widehat{HGD})$, G ağırlık merkezi,
 $AG = 10$ cm, $DH = 3$ cm ise,
 $AB = x$ kaç cm dir?

- A) $\frac{75}{7}$ B) $\frac{150}{7}$ C) $\frac{300}{7}$ D) $\frac{400}{7}$ E) $\frac{500}{7}$

12.

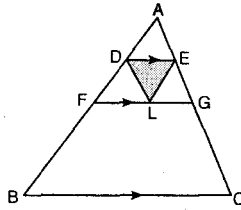
Şekilde,
 $[DE] \parallel [BC]$,
 $[DF] \parallel [AC]$ dir.
 $IAEI = IBFI = 2IEFI$ ise,
 $\frac{A(DEF)}{A(ABC)}$ oranı kaçtır?



- A) $\frac{1}{10}$ B) $\frac{1}{15}$ C) $\frac{1}{20}$ D) $\frac{1}{24}$ E) $\frac{1}{25}$

13.

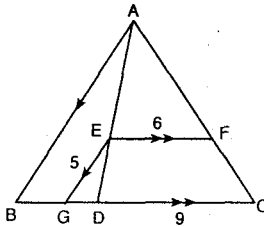
Şekilde,
 $[GC] = 2IEGI = 2IAEI$,
 $[DE] \parallel [FG] \parallel [BC]$,
 $A(DEL) = 6$ cm² ise,
 $A(ABC)$ kaç cm² dir?



- A) 32 B) 36 C) 42 D) 48 E) 96

14.

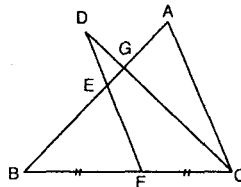
Şekilde,
 $[EG] \parallel [AB]$,
 $[EF] \parallel [DC]$,
 $IEFI = 6$ cm,
 $IDCI = 9$ cm,
 $IEGI = 5$ cm ise,
 $AB = x$ kaç cm dir?



- A) 15 B) 14 C) 12 D) 9 E) 8

15.

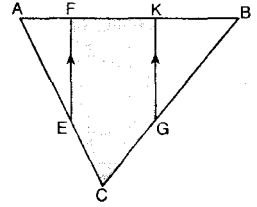
Şekilde,
 $[DF] \parallel [AC]$,
 $IBFI = IFCI$,
 $IAGI = 2IEGI$,
 $A(DEG) = 4$ cm² ise,
 $A(BEF)$ kaç cm² dir?



- A) 12 B) 16 C) 18 D) 24 E) 36

16.

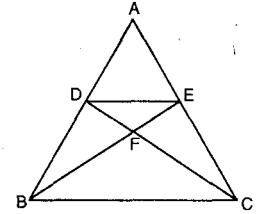
Şekilde,
 $IAEI = IECI$,
 $IBGI = IGCİ$ dir.
 $[EF] \parallel [GK]$,
 $A(AEF) = 3$ br²,
 $A(BKG) = 5$ br² ise,
 $A(CGKFE)$ kaç br² dir?



- A) 16 B) 18 C) 20 D) 22 E) 24

17.

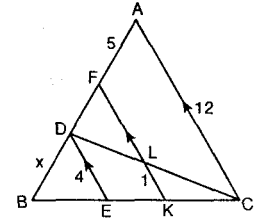
Şekildeki ABC üçgeninde,
 $[DE] \parallel [BC]$,
 $\frac{IBFI}{IFEI} = \frac{5}{2}$
 $A(ADE) = 4$ cm² ise,
 $A(BDEC)$ kaç cm² dr?



- A) 16 B) 18 C) 21 D) 25 E) 32

18.

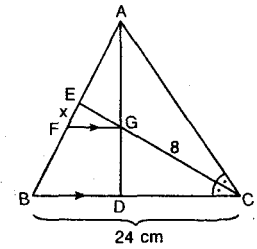
Şekilde,
 $[DE] \parallel [FK] \parallel [AC]$ dir.
 $IEDI = 4$ cm,
 $IKLI = 1$ cm,
 $IACI = 12$ cm,
 $IAFI = 5$ cm ise,
 $IBDI = x$ kaç cm dir?



- A) 6 B) 7 C) 8 D) 9 E) 10

19.

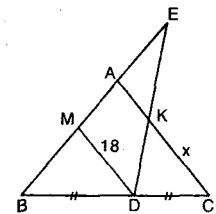
ABC üçgeninde,
G ağırlık merkezi,
 $[CE]$ açıortay,
 $IBCİ = 24$ cm,
 $IGCI = 8$ cm,
 $[FG] \parallel [BC]$ ise,
 $IEFI = x$ kaç cm dir?



- A) $2\sqrt{2}$ B) $2\sqrt{3}$ C) $3\sqrt{2}$
D) $2\sqrt{6}$ E) $4\sqrt{3}$

20.

Şekilde ABC ve MDE üçgenlerinde,
 $[MD] \parallel [AC]$
 $2IDKI = IEKI$,
 $IMDI = 18$ cm ise,
 $IKCI = x$ kaç cm dir?



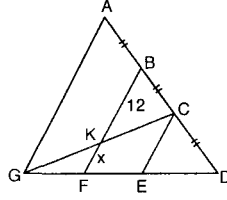
- A) 26 B) 24 C) 18 D) 16 E) 12

ÜÇGENDE BENZERLİK

TEST

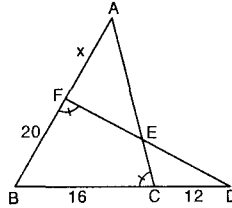
6

1. Şekilde,
 $[AG] \parallel [BF] \parallel [CE]$,
 $IABI = IBCI = ICDI$,
 $IKBI = 12$ cm ise,
 $IKFI = x$ kaç cm dir?



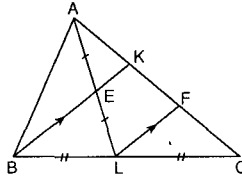
A) 1 B) 2 C) 3 D) 4 E) 5

2. Şekilde,
 $m(\widehat{BFD}) = m(\widehat{ACB})$,
 $IBFI = 20$ cm,
 $IBCI = 16$ cm,
 $ICDI = 12$ cm ise,
 $IAFI = x$ kaç cm dir?



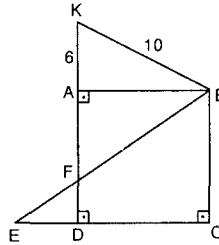
A) 2,4 B) 2,8 C) 3 D) 3,2 E) 3,6

3. Şekilde ABC üçgeninde,
 $[BK] \parallel [LF]$,
 $IAEI = IELI$,
 $IBLI = ILCI$ dir.
 $IBKI = 24$ cm ise,
 $IBEI$ kaç cm dir?



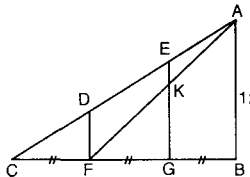
A) 12 B) 13 C) 14 D) 15 E) 18

4. Şekilde ABCD bir karedir.
 $IAKI = 6$ cm,
 $IKBI = 10$ cm,
 $IDCI = 4IEDI$ ise,
 $IDFI$ kaç cm dir?



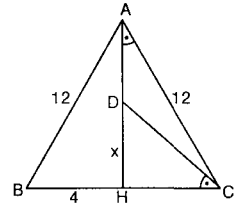
A) 1,4 B) 1,6 C) 2 D) 3 E) 3,2

5. Şekilde,
 $[DF] \parallel [EG] \parallel [AB]$,
 $ICFI = IFGI = IGBI$,
 $IABI = 12$ cm ise,
 $IEKI$ kaç cm dir?



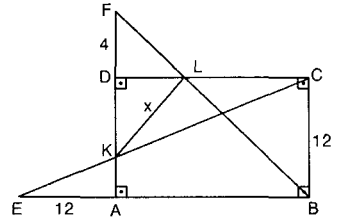
A) 1 B) 2 C) 3 D) 4 E) 5

6. Şekilde $[AH] \perp [BC]$
 $IABI = IACI = 12$ cm,
 $IBHI = 4$ cm,
 $m(\widehat{DAC}) = m(\widehat{DCH})$ ise,
 $IDHI = x$ kaç cm dir?



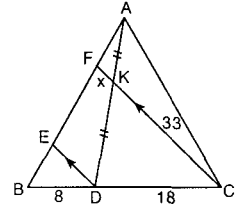
A) $4\sqrt{3}$ B) $4\sqrt{2}$ C) $3\sqrt{2}$
D) $\sqrt{3}$ E) $\sqrt{2}$

7. Şekilde ABCD dikdörtgen,
 $IAEI = 12$ cm,
 $IABI = 24$ cm,
 $IBCI = 12$ cm,
 $IFDI = 4$ cm ise,
 $IKLI = x$ kaç cm dir?



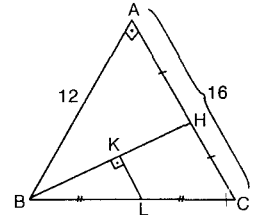
A) 6 B) 8 C) 10 D) 11 E) 12

8. Şekilde,
 $[DE] \parallel [CF]$,
 $IBDI = 8$ cm,
 $IDCI = 18$ cm,
 $ICKI = 33$ cm,
 $IAKI = IKDI$ ise,
 $IFKI = x$ kaç cm dir?



A) 6 B) 7 C) 8 D) 9 E) 10

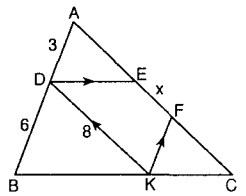
9. Şekilde,
 $m(\widehat{BAC}) = 90^\circ$,
 $IABI = 12$ cm,
 $IACI = 16$ cm,
 $IAHI = IHCI$,
 $IBLI = ILCI$ ise,
 $IKLI = x$ kaç cm dir?



A) 3 B) $\frac{12}{\sqrt{13}}$ C) 4

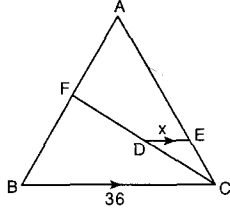
D) $2\sqrt{13}$ E) $\frac{25}{\sqrt{13}}$

10. Şekilde,
 $[DE] \parallel [BC]$,
 $[KF] \parallel [AB]$,
 $[KD] \parallel [AC]$,
 $IBDI = 6$ cm,
 $IADI = 3$ cm,
 $IKDI = 8$ cm ise,
 $IEFI = x$ kaç cm dir?



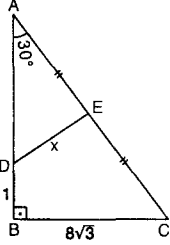
A) 8 B) 7 C) 6 D) 5 E) 4

11. Şekilde $IBFI = 3IAFI$,
 $IFDI = 2IDCI$,
 $[DE] \parallel [BC]$ dir.
 $IBC = 36$ cm ise,
 $IDE = x$ kaç cm dir?



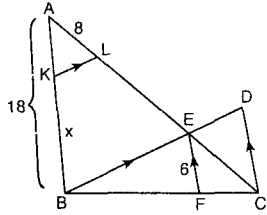
- A) 1 B) 2 C) 3 D) 4 E) 5

12. Şekilde,
 $m(\hat{ABC}) = 90^\circ$,
 $IBDI = 1$ cm,
 $m(\hat{BAC}) = 30^\circ$,
 $IBC = 8\sqrt{3}$ cm,
 $IAEI = IECI$ ise,
 $IDE = x$ kaç cm dir?



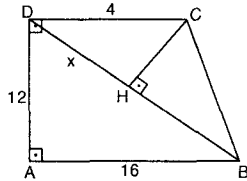
- A) $8\sqrt{3}$ B) $4\sqrt{13}$ C) $3\sqrt{15}$
D) 13 E) 15

13. Şekilde
 $[AB] \parallel [EF] \parallel [DC]$
 $[KL] \parallel [BD]$ dir.
 $ABI = 18$ cm,
 $ALI = 8$ cm,
 $IEFI = 6$ cm,
 $ACI = 36$ cm ise,
 $IBKI = x$ uzunluğu
kaç cm dir?



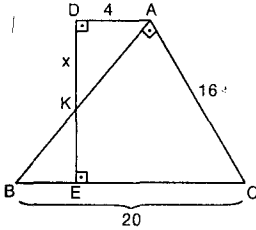
- A) 9 B) 12 C) 13 D) 14 E) 15

14. Şekilde,
 $m(\hat{BAD}) = m(\hat{CDA}) = 90^\circ$,
 $[CH] \perp [BD]$,
 $IADI = 12$ cm,
 $IBAI = 16$ cm,
 $IDCI = 4$ cm ise,
 $IDHI = x$ kaç cm dir?



- A) 6,4 B) 5,6 C) 4,8 D) 3,2 E) 2,4

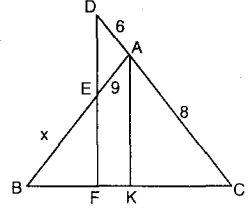
15.



Şekilde, $m(\hat{D}) = m(\hat{E}) = m(\hat{BAC}) = 90^\circ$,
 $IADI = 4$ cm, $IACI = 16$ cm, $IBC = 20$ cm ise,
 $IKDI = x$ kaç cm dir?

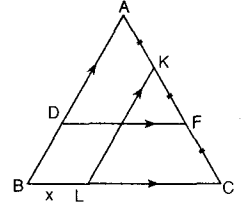
- A) $\frac{8}{3}$ B) $\frac{10}{3}$ C) $\frac{13}{3}$ D) $\frac{14}{3}$ E) $\frac{16}{3}$

16. Şekilde,
 $[DF] \parallel [AK]$,
 $IBKI = IKCI$,
 $IACI = 8$ cm,
 $IADI = 6$ cm,
 $IAEI = 9$ cm ise,
 $IBEI = x$ kaç cm dir?



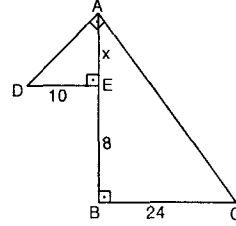
- A) 3 B) 4 C) 5 D) 6 E) 7

17. Şekilde,
 $[KL] \parallel [AB]$,
 $[DF] \parallel [BC]$,
 $IAKI = IKFI = IFCI$ dir.
 $IDFI = 12$ cm ise,
 $IBLI = x$ kaç cm dir?



- A) 3 B) 4 C) 5 D) 6 E) 7

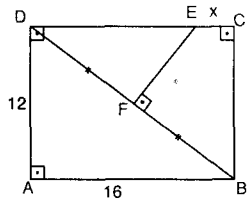
18.



Şekilde, $m(\hat{DAC}) = m(\hat{DEA}) = m(\hat{ABC}) = 90^\circ$
 $IDEI = 10$ cm, $IEBI = 8$ cm, $IBCI = 24$ cm ise,
 $IAEI = x$ kaç cm dir?

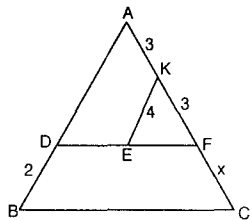
- A) 10 B) 11 C) 12 D) 13 E) 14

19. Şekilde,
ABCD dikdörtgen,
 $IDFI = IFBI$,
 $[EF] \perp [BD]$,
 $IADI = 12$ cm,
 $IBAI = 16$ cm ise,
 $IECI = x$ kaç cm dir?



- A) 2,5 B) 3,5 C) 4,5 D) 5,5 E) 6,5

20. Şekilde,
 $IAKI = IKFI = 3$ cm,
 $IKEI = 4$ cm,
 $IBDI = 2$ cm dir.
 $[AB] \parallel [KE]$,
 $[DF] \parallel [BC]$ ise,
 $IFCI = x$ kaç cm dir?



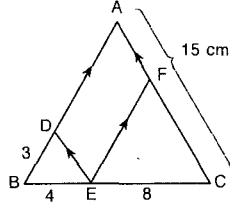
- A) 7,5 B) 3,5 C) 2,5 D) 2 E) 1,5

ÜÇGENDE BENZERLİK

TEST

7

1. Şekilde
- $[DE] \parallel [AF]$

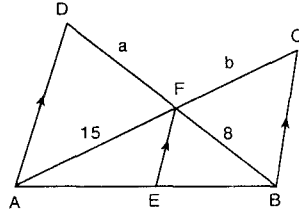
 $[AB] \parallel [FE]$ dir. $|AC| = 15$ cm $|BE| = 4$ cm, $|EC| = 8$ cm, $|BD| = 3$ cm ise $\angle(ADEF)$ kaç cm'dir?

- A) 22 B) 24 C) 25 D) 26 E) 28

2. Şekilde
- $[AD] \parallel [EF] \parallel [BC]$

 $2|AE| = 3|EB|$, $|BF| = 8$ cm $|AF| = 15$ cm $|DF| = a$, $|FC| = b$ ise $a + b$

kaçtır?

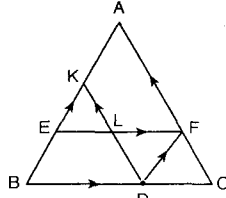


- A) 15 B) 17 C) 22 D) 24 E) 26

3. Şekilde
- $[EF] \parallel [BC]$

 $[KD] \parallel [AC]$, $[FD] \parallel [AB]$ dir. $3|FC| = |AF|$ ise $\frac{A(KEL)}{A(DLF)}$

oranı kaçtır?

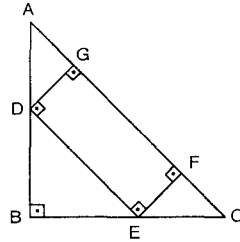


- A) 1 B) 2 C) 3 D) 4 E) 5

4. Şekilde ABC üçgeninde

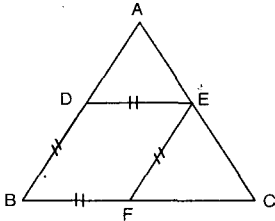
 $m(\hat{B}) = 90^\circ$, $m(\hat{A}) = m(\hat{C})$,

DEFG dikdörtgen

 $3|EF| = |GF|$ $|AC| = 10\sqrt{2}$ cm ise $|BE|$ kaç cm'dir?

- A) 5,5 B) 6 C) 6,5 D) 7 E) 7,5

- 5.

Şekilde ABC üçgeninde $|BF| = |FE| = |BD| = |DE|$, $[DE] \parallel [BC]$, $[FE] \parallel [AB]$, $|AC| = 16$ cm, $|BC| = 25$ cm $|AB| = 15$ cm ise $|EC|$ kaç cm'dir?

- A) 6 B) 8 C) 9 D) 10 E) 12

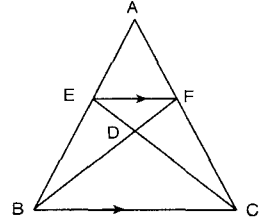
6. Şekildeki ABC

üçgeninde

 $3|AF| = |FC|$, $[EF] \parallel [BC]$ dir. $\frac{A(BDC)}{A(ABC)}$

oranı

aşağıdakilerden hangisidir?



- A)
- $\frac{1}{5}$
- B)
- $\frac{2}{5}$
- C)
- $\frac{3}{5}$
- D)
- $\frac{4}{5}$
- E) 2

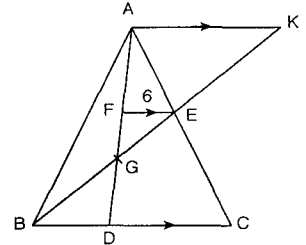
7. Şekilde

 $[AK] \parallel [FE] \parallel [BC]$ dir.

G Ağırlık merkezi

 $|EF| = 6$ cm ise $|BD| + |AK|$ kaç

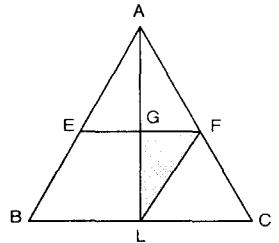
cm'dir?



- A) 12 B) 16 C) 18 D) 24 E) 36

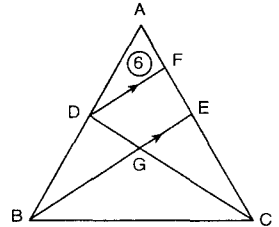
8. Şekilde
- $[EF] \parallel [BC]$

G Ağırlık merkezi

 $A(ABC) = 144$ cm²ise $A(GFL)$ kaçcm²dir?

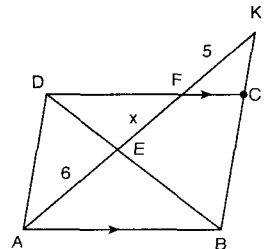
- A) 12 B) 16 C) 18 D) 24 E) 36

9. Şekilde G Ağırlık

Merkezi $[DF] \parallel [BE]$ $A(ADF) = 6$ cm² ise $A(GEC)$ kaçcm²dir?

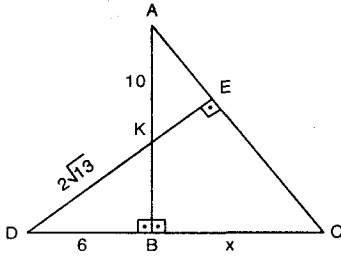
- A) 6 B) 8 C) 10 D) 12 E) 16

10. Şekilde
- $[AB] \parallel [DC]$
- ,

 $[AD] \parallel [BC]$, $|AE| = 6$ cm, $|FK| = 5$ cm ise $|EF| = x$ kaç cm'dir?

- A) 2 B) 3 C) 4 D) 5 E) 6

11.



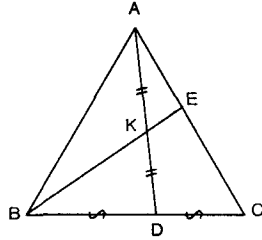
Şekilde $[AB] \perp [CD]$ $[AC] \perp [DE]$ dir.

$IDKI = 2\sqrt{13}$ cm $IBDI = 6$ cm, $IAKI = 10$ cm ise

$IBCI = x$ kaç cm'dir?

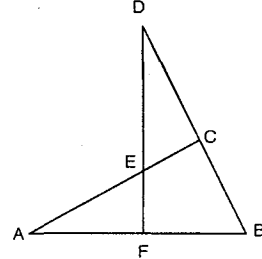
- A) $\frac{7}{3}$ B) $\frac{12}{5}$ C) $\frac{17}{3}$ D) $\frac{25}{3}$ E) $\frac{28}{3}$

12. Şekilde $IAKI = IKDI$
 $IACI = 12$ cm, $[AD]$
kenarortay ise
 $IAEI$ kaç cm'dir?



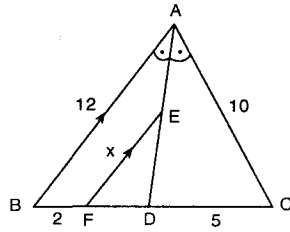
- A) 4 B) 5 C) 6 D) 7 E) 8

13. Şekilde $IDCI = 2IBCI$,
 $2IAFI = 3IFBI$ ise $\frac{IAEI}{IECI}$
orani
aşağıdakilerden
hangisidir?



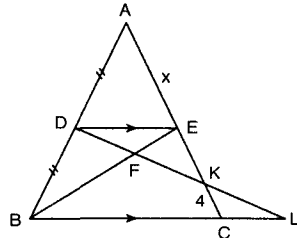
- A) $\frac{9}{4}$ B) $\frac{7}{4}$ C) $\frac{5}{4}$ D) $\frac{3}{4}$ E) $\frac{1}{4}$

14. Şekildeki ABC
üçgeninde $[AD]$
açıortay,
 $[EF] \parallel [AB]$
 $IACI = 10$ cm,
 $IDCI = 5$ cm,
 $IBFI = 2$ cm,
 $IABI = 12$ cm ise
 $IEFI = x$ kaç
cm'dir?



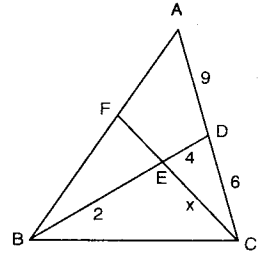
- A) 10 B) 9 C) 8 D) 7 E) 6

15. Şekildeki ABC
üçgeninde
 $[DE] \parallel [BL]$,
 $IADI = IBDI$
 $2IBFI = 5IEFI$,
 $IKCI = 4$ cm ise
 $IAEI = x$ kaç
cm'dir?



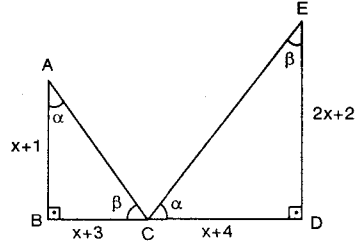
- A) 16 B) 12 C) 10 D) 8 E) 6

16. Şekildeki ABC
üçgeninde
 $IBEI = 2$ cm,
 $IDEI = 4$ cm,
 $IADI = 9$ cm,
 $IDCI = 6$ cm dir.
 $IFCI = 10$ cm ise
 $IECI = x$ kaç cm'dir?



- A) 4 B) 5 C) 6 D) 7 E) 8

17.



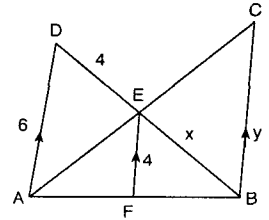
Şekilde $m(\angle ABC) = m(\angle EDC) = m(\angle ACE) = 90^\circ$

$IABI = x + 1$, $IBCI = x + 3$, $IDCI = x + 4$,

$IEDI = 2x + 2$ ise $IBDI$ kaç cm'dir?

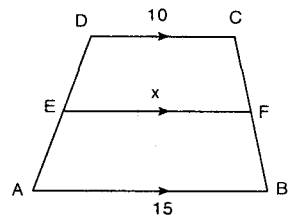
- A) 13 B) 14 C) 15 D) 16 E) 17

18. Şekilde
 $[AD] \parallel [EF] \parallel [BC]$ dir.
 $IADI = 6$ cm,
 $IEFI = IDEI = 4$ cm,
 $IEBI = x$, $IBCI = y$ ise
 $x + y$ kaç cm'dir?



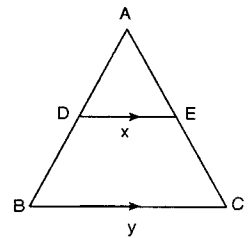
- A) 20 B) 18 C) 16 D) 14 E) 12

19. Şekilde
 $[DC] \parallel [EF] \parallel [AB]$
 $\frac{IDEI}{IADI} = \frac{2}{5}$ ise
 $IEFI = x$ kaç
cm'dir?



- A) 9 B) 10 C) 11 D) 12 E) 13

20. Şekildeki ABC
üçgeninde
 $[DE] \parallel [BC]$,
 $\frac{IAEI}{IACI} = \frac{2}{5}$
 $IACI = 10$ cm,
 $IABI = 15$ cm
 $IDEI = x$,
 $IBCI = y$ ise $x + y$ 'nin
alabileceği en küçük tamsayı değeri kaçtır?

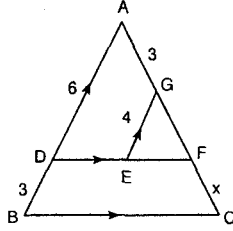


- A) 5 B) 6 C) 7 D) 8 E) 9

ÜÇGENDE BENZERLİK

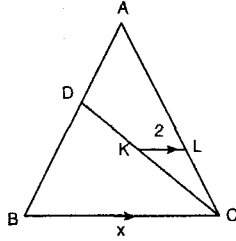
TEST 8

1. Şekilde $[DF] \parallel [BC]$,
 $[GE] \parallel [AD]$
 $IAI = 6$ cm
 $IBD = IAGI = 3$ cm
 $IGE = 4$ cm ise $ICF = x$
 kaç cm'dir?



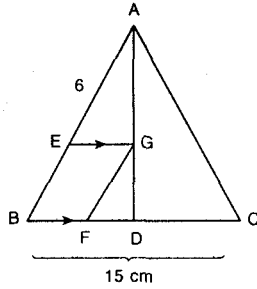
A) 2,5 B) 3,5 C) 4 D) 4,5 E) 5

2. Şekilde $[KL] \parallel [BC]$,
 $\frac{IDK}{IKC} = 3$ $IAI = 2IBI$,
 $IKL = 2$ cm ise
 $IBC = x$ kaç cm'dir?



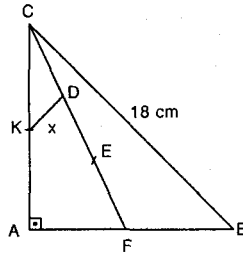
A) 12 B) 10 C) 9 D) 8 E) 7

3. Şekildeki ABC
 üçgeninde
 $[BA] \parallel [FG]$,
 $[EG] \parallel [BC]$
 G Ağırlık merkezi
 $IAI = 6$ cm
 $IBC = 15$ cm ise
 $IBFI + IFGI$ toplamı
 kaç cm'dir?



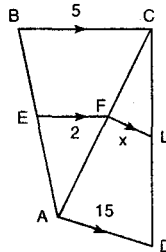
A) 6 B) 7 C) 8 D) 9 E) 10

4. Şekilde $m(\hat{BAC}) = 90^\circ$,
 $[CF]$ kenarortay,
 $IAI = IKCI$
 $ICD = IDE = IEF$,
 $IBC = 18$ cm ise
 $IKDI = x$ kaç cm'dir?



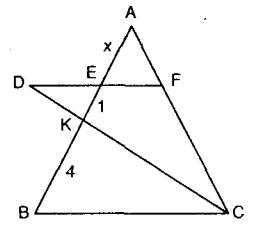
A) 2 B) 3 C) 4 D) 5 E) 6

5. Şekilde
 $[EF] \parallel [BC]$, $[FL] \parallel [AD]$ dir.
 $IEFI = 2$ cm,
 $IBC = 5$ cm,
 $IAI = 15$ cm ise $IFLI = x$ kaç
 cm'dir?



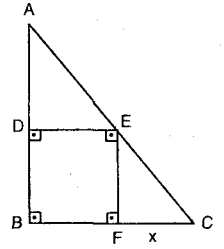
A) 5 B) 6 C) 7 D) 8 E) 9

6. Şekilde $[DF] \parallel [BC]$,
 $IDEI = IEFI$
 $IEKI = 1$ cm
 $IBKI = 4$ cm ise
 $IAEI = x$ kaç cm'dir?



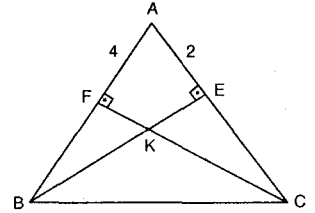
A) $\frac{7}{6}$ B) $\frac{7}{5}$ C) $\frac{5}{4}$ D) $\frac{5}{3}$ E) $\frac{5}{2}$

7. Şekilde BDEF kare,
 $IAI = 6$ cm
 $IBC = 8$ cm ise $ICF = x$
 kaç cm'dir?



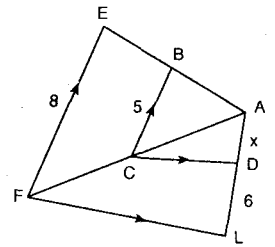
A) $\frac{34}{7}$ B) $\frac{32}{7}$ C) $\frac{30}{7}$ D) $\frac{24}{7}$ E) $\frac{19}{7}$

8. Şekilde
 $[BE] \perp [AC]$
 $[CF] \perp [AB]$ dir.
 $IAEI = 2$ cm
 $IAFI = 4$ cm
 $IBEI = 6$ cm ise
 $ICFI = x$ kaç
 cm'dir?



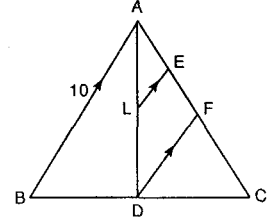
A) 3 B) 6 C) 12 D) 15 E) 18

9. Şekilde $IBC \parallel [EF]$,
 $[CD] \parallel [FL]$ dir.
 $IBC = 5$ cm,
 $IFEI = 8$ cm,
 $IDLI = 6$ cm ise
 $IAI = x$ kaç cm'dir?



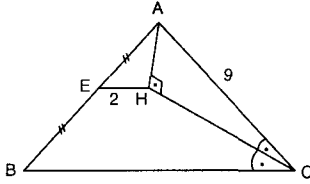
A) 12 B) 10 C) 8 D) 7 E) 6

10. Şekilde
 $IAEI = IEFI = 2IFCI$
 $[AB] \parallel [EL] \parallel [DF]$
 $IAI = 10$ cm ise
 $IELI = x$ kaç cm'dir?



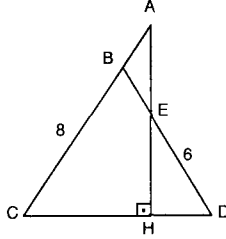
A) 5 B) 4 C) 3 D) 2 E) 1

11. Şekilde ABC üçgeninde [CH] açıortay
[AH] $\perp$ [CH],
IAEI = IEB]
IACI = 9 cm
IEHI = 2 cm ise **IBCI kaç cm'dir?**



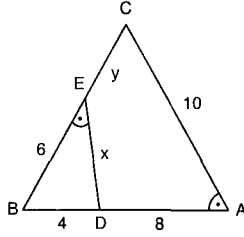
A) 11 B) 12 C) 13 D) 14 E) 15

12. Şekilde
IBCI = IBDI = 8 cm
IEDI = 6 cm,
[AH] $\perp$ [DC] ise
IACI kaç cm'dir?



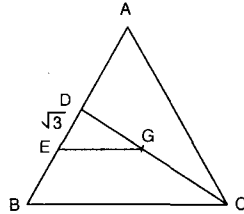
A) 10 B) 8 C) 7 D) 6 E) 5

13. Şekilde
 $m(\hat{B\hat{E}D}) = m(\hat{B\hat{A}C})$
IBDI = 4 cm
IDA = 8 cm,
IEBI = 6 cm
IACI = 10 cm
IEDI = x cm
IECI = y cm ise **x + y kaç cm'dir?**



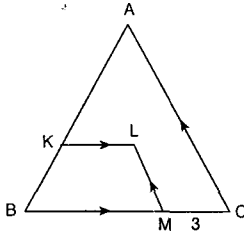
A) 3 B) 4 C) 5 D) 6 E) 7

14. Şekilde ABC eşkenar üçgen G Ağırlık merkezi [EG] $\parallel$ [BC]
IDEI = $\sqrt{3}$ cm ise
IGCI kaç cm'dir?



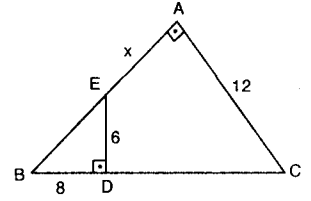
A) 3 B) 4 C) 5 D) 6 E) 8

15. Şekilde ABC eşkenar üçgen [LM] $\parallel$ [AC],
[KL] $\parallel$ [BC]
IMCI = 3 cm
 $\hat{C}(ABC) = 27$ cm
 $\hat{C}(BKLM) = 16$ cm ise
IKLI kaç cm'dir?



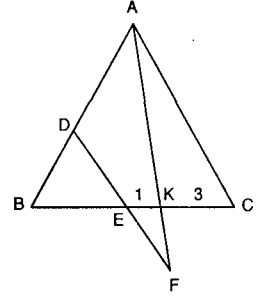
A) 2 B) 3 C) 4 D) 5 E) 6

16. Şekilde
 $m(\hat{B\hat{A}C}) = 90^\circ$
 $m(\hat{B\hat{D}E}) = 90^\circ$,
IBDI = 8 cm
IEDI = 6 cm
IACI = 12 cm ise
IAEI = x kaç cm'dir?



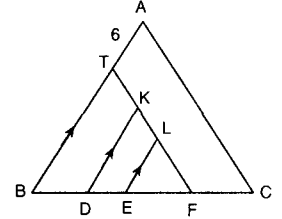
A) 5 B) 6 C) 7 D) 8 E) 9

17. Şekilde [DF] $\parallel$ [AC],
IEKI = 1 cm
IKCI = 3 cm,
2IDEI = 3IEFI ise
IBCI kaç cm'dir?



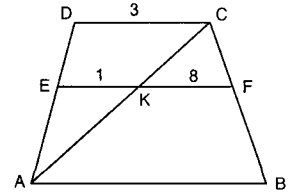
A) 7 B) 8 C) 9 D) 10 E) 12

18. Şekilde
[AB] $\parallel$ [DK] $\parallel$ [EL]
[FT] $\parallel$ [AC],
IBDI = IDEI = IEFI = IFCI
IATI = 6 cm ise
IKDI + IELI kaç cm'dir?



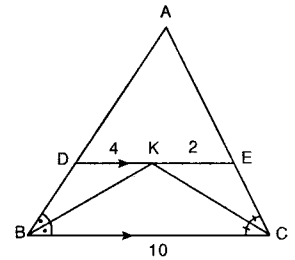
A) 12 B) 15 C) 18 D) 21 E) 24

19. Şekilde
[DC] $\parallel$ [EF] $\parallel$ [AB] dir.
IEKI = 1 cm,
IKFI = 8 cm,
IDCI = 3 cm ise
IABI kaç cm'dir?



A) 9 B) 10 C) 11 D) 12 E) 13

20. Şekilde ABC üçgeninde [BK] ve [CK] açıortay
IDKI = 4 cm
IKEI = 2 cm,
IBCI = 10 cm ise
IADI kaç cm'dir?

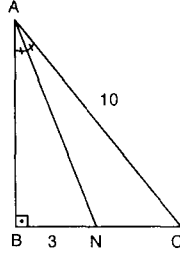


A) 4 B) 6 C) 8 D) 9 E) 12

ÜÇGENDE ALAN

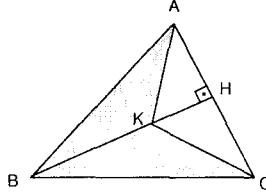
TEST 1

1. Şekilde,
[AB] $\perp$ [BC], [AN] açıortay
|BN| = 3 br,
|AC| = 10 br ise
 Δ
A(ANC) kaç br²dir?



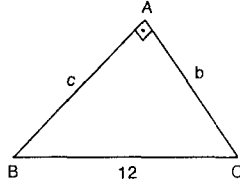
A) 12 B) 15 C) 20 D) 24 E) 30

2. Şekilde
[AC] $\perp$ [BH],
|AC| = 12 br,
|BK| = 8 br ise
Taralı alan kaç br²dir?



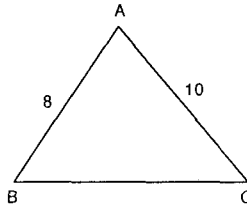
A) 96 B) 58 C) 48 D) 42 E) 24

3. Şekilde
[AB] $\perp$ [AC]
|AB| = c,
|AC| = b,
|BC| = 12 ve
 $\frac{b}{c} + \frac{c}{b} = 6$ ise
 Δ
A(ABC) kaç br²dir?



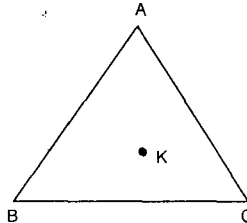
A) 12 B) 15 C) 18 D) 21 E) 24

4. Şekilde
|AB| = 8 br,
|AC| = 10 br ise
A(ABC)'nin en büyük değeri kaç br²dir?



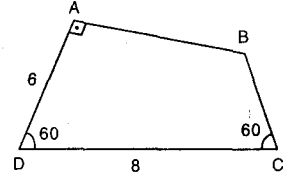
A) 24 B) $24\sqrt{3}$ C) 40
D) $40\sqrt{3}$ E) 60

5. Şekilde ABC eşkenar üçgen ve K noktasının kenarlara olan uzaklıkları toplamı 12 birim ise Δ
A(ABC) kaç br²dir?



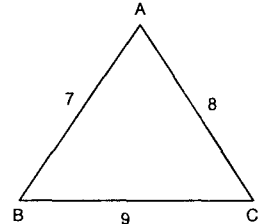
A) $12\sqrt{3}$ B) $24\sqrt{3}$ C) $36\sqrt{3}$
D) $48\sqrt{3}$ E) $60\sqrt{3}$

6. Şekilde
[AB] $\perp$ [AD],
|AD| = 6,
|DC| = 8 ve
 $m(\hat{D}) = m(\hat{C}) = 60^\circ$
ise **A(ABCD) kaç br²dir?**



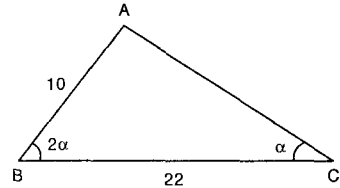
A) $6\sqrt{3}$ B) $8\sqrt{3}$ C) $10\sqrt{3}$
D) $12\sqrt{3}$ E) $14\sqrt{3}$

7. Şekilde
|AB| = 7 br,
|AC| = 8 br ve
|BC| = 9 br ise
[AC] kenarına ait yükseklik kaç br'dir?



A) $\frac{2\sqrt{5}}{3}$ B) $2\sqrt{5}$ C) $\frac{3\sqrt{5}}{2}$
D) $3\sqrt{5}$ E) $4\sqrt{5}$

8.

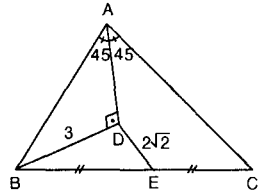


Şekilde |AB| = 10 br, |BC| = 22 br,

$m(\hat{A}) = 2m(\hat{C})$ ise **A(ABC) kaç br²dir?**

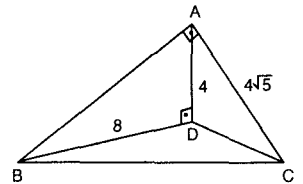
A) 44 B) 56 C) 72 D) 76 E) 88

9. Şekilde [AD] $\perp$ [BD],
|BE| = |EC|,
|BD| = 3 br,
|DE| = $2\sqrt{2}$ br ise
A(ABC) kaç br²dir?



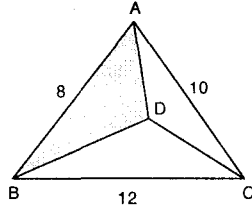
A) 6 B) 8 C) 12 D) 16 E) 21

10. Şekilde
[AB] $\perp$ [AC],
|AD| = 4 br,
|BD| = 8 br,
|AC| = $4\sqrt{5}$ br ise
 Δ
A(BDC) kaç br²dir?



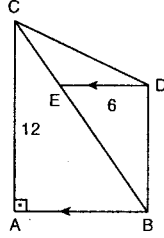
A) 16 B) 14 C) 12 D) 10 E) 8

11. Şekilde
 $IAI = 8$ br,
 $IACI = 10$ br,
 $IBC I = 12$ br
 D iç teğet çemberin
merkezi olduğuna
göre taralı alan kaç
 br^2 'dir?



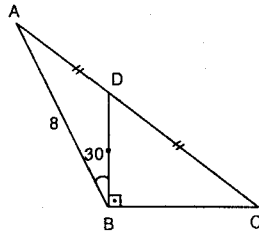
- A) $4\sqrt{7}$ B) 16 C) $16\sqrt{7}$
D) 20 E) $20\sqrt{7}$

12. Şekilde,
 $m(\hat{A}) = 90^\circ$,
 $[ED] \parallel [AB]$,
 $IACI = 12$ br,
 $IEDI = 6$ br ise
 Δ
 $A(CDB)$ kaç br^2 'dir?



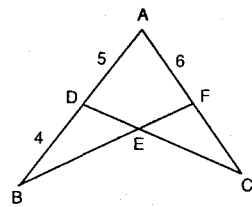
- A) 24 B) 32 C) 36 D) 48 E) 72

13. Şekilde
 $m(\hat{ABD}) = 30^\circ$,
 $m(\hat{DBC}) = 90^\circ$,
 $IADI = IDC I$ ve
 $IABI = 8$ br ise
 Δ
 $A(DBC)$ kaç br^2 'dir?



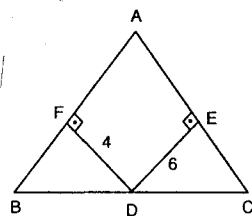
- A) $\sqrt{3}$ B) $3\sqrt{3}$ C) $4\sqrt{3}$ E) $6\sqrt{3}$ E) $8\sqrt{3}$

14. Şekilde
 Δ
 $A(BDE) = A(EFC)$,
 $IADI = 5$ br,
 $IDBI = 4$ br ve
 $IAFI = 6$ br ise
 $IFCI$ kaç br^2 'dir?



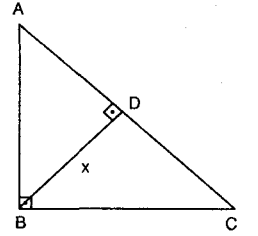
- A) 2,6 B) 3,8 C) 4 D) 4,8 E) 5

15. Şekilde
 $IDFI = 4$ br,
 $IDEI = 6$ br,
 $IABI = 10$ br,
 $IACI = 12$ br ise
 Δ
 $A(ABC)$ kaç br^2 'dir?



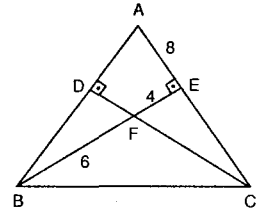
- A) 30 B) 44 C) 56 D) 60 E) 64

16. Şekilde
 Δ
 $A(ABD) = 4 br^2$,
 Δ
 $A(BDC) = 16 br^2$ ise
 $IBDI = x$ kaç br^2 'dir?



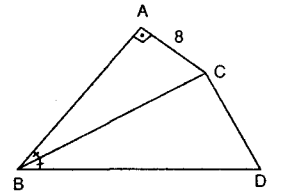
- A) $\frac{3}{2}$ B) $\frac{5}{2}$ C) 3 D) 4 E) $\frac{7}{2}$

17. Şekilde
 $IBFI = 6$ br,
 $IFEI = 4$ br,
 $IAEI = 8$ br ise
 Δ
 $A(FEC)$ kaç br^2 'dir?



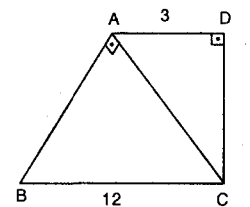
- A) 6 B) 8 C) 10 D) 12 E) 16

18. Şekilde
 $IACI = 8$ br
 $IBDI = IABI + 5$ ve
 Δ
 $A(BDC) = 36 br^2$ ise
 $IBCI$ kaç br^2 'dir?



- A) $2\sqrt{5}$ B) $3\sqrt{5}$ C) $4\sqrt{5}$
D) $6\sqrt{5}$ E) $8\sqrt{5}$

19. Şekilde
 $m(\hat{B}) = m(\hat{ACD}) = 90^\circ$
 $IADI = 3$ br
 $IBCI = 12$ br ise
 Δ
 $A(ABC)$ kaç br^2 'dir?



- A) $6\sqrt{3}$ B) $12\sqrt{3}$ C) $18\sqrt{3}$
D) 24 E) 36

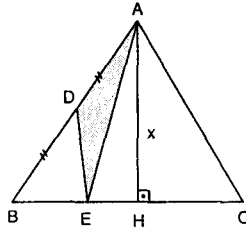
20. Bir üçgenin tabanı 3 kat artırılır ve bu tabana ait
yüksekliği $\frac{1}{3}$ 'üne indirilirse yeni üçgenin alanının
ilk alana oranı aşağıdakilerden hangisidir?

- A) $\frac{1}{3}$ B) $\frac{2}{3}$ C) $\frac{3}{4}$ D) 1 E) $\frac{4}{3}$

ÜÇGENDE ALAN

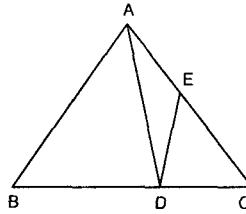
TEST 2

1. Şekilde
 $IADI = IDBI$,
 $IBEI = 6$ br,
 $A(\triangle ADE) = 15$ br ise
 $IAHI = x$ kaç br'dir?



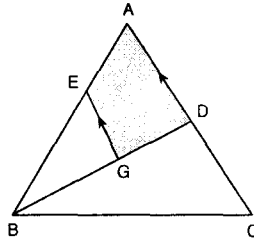
- A) 8 B) 10
 C) 12 D) 14 E) 15

2. Şekilde
 $IACI = 4IAEI$,
 $5IDCI = 4IBDI$ ve
 $A(\triangle EDC) = 9$ br² ise
 $A(\triangle ABC)$ kaç br²'dir?



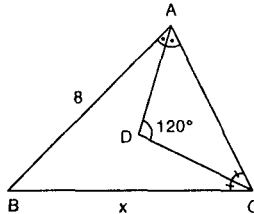
- A) 21 B) 24 C) 25 D) 27 E) 30

3. Şekilde G, ABC
 üçgeninin ağırlık
 merkezi, $[EG] \parallel [AC]$
 ve taralı alan 25 br²
 ise $A(\triangle ABC)$ nedir?



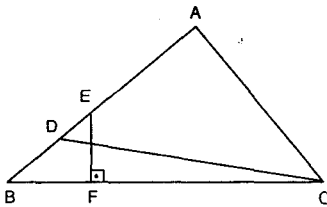
- A) 50 B) 70 C) 75 D) 80 E) 90

4. Şekilde $[AD]$ ve $[DC]$
 açıortay $m(\hat{D}) = 120^\circ$
 $IABI = 8$ br ve
 $A(\triangle ABC) = 12\sqrt{3}$ br²
 ise $IBCI = x$ kaç
 br'dir?



- A) 4 B) 5 C) 6 D) 7 E) 8

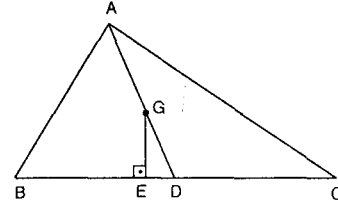
5.



Şekilde $IAEI = 3IBDI = 6IDEI$, $IEFI = 6$ br ve
 $A(\triangle ABC) = 45$ br² ise $IBCI$ kaç birimdir?

- A) 4 B) 5 C) 6 D) 8 E) 10

6.



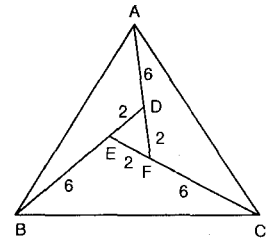
Şekilde G, ABC üçgeninin ağırlık merkezi

$IGEI = 3$ br, $IDCI = 6$ br ise $A(\triangle ABC)$ kaç br²'dir?
 A) 62 B) 54 C) 48 D) 36 E) 24

7.

Şekilde
 $IDEI = IDFI = IEFI = 2$ br
 $IADI = IBEI = IFCI = 6$ br

ise $A(\triangle ABC)$ kaç
 br²'dir?

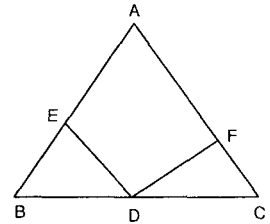


- A) $12\sqrt{3}$ B) $16\sqrt{3}$ C) $24\sqrt{3}$
 D) $28\sqrt{3}$ E) $37\sqrt{3}$

8.

Şekilde,
 $IAEI = 3IEBI$,
 $5IFCI = 2IACI$ ve
 $5IBDI = 4IDCI$ ise
 $\frac{A(\triangle EBD)}{A(\triangle FDC)}$
 kaçtır?

orani



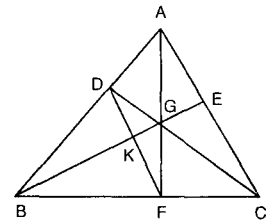
- A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) $\frac{3}{4}$ D) $\frac{4}{3}$ E) 2

9.

Şekilde D, E ve F
 orta noktalar
 olduğuna göre

$\frac{A(\triangle DGK)}{A(\triangle GEC)}$
 kaçtır?

orani



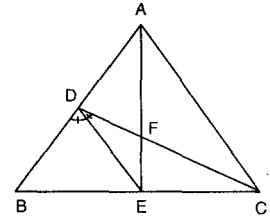
- A) $\frac{1}{5}$ B) $\frac{1}{4}$ C) $\frac{1}{3}$ D) $\frac{1}{2}$ E) 1

10.

Şekilde $2ICDI = IBDI$,
 $[ED] \parallel [AC]$

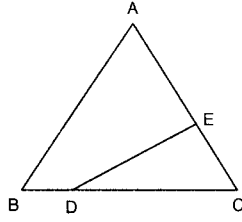
$A(\triangle BDE) + A(\triangle EFC) = 26$ br²

ise $A(\triangle ABC)$ kaç
 br²'dir?



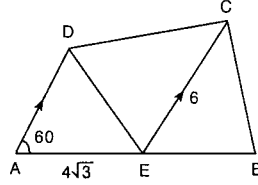
- A) 25 B) 30 C) 35 D) 40 E) 45

11. Şekildeki ABC üçgeninde
 $2|AE| = 3|EC|$,
 $|BC| = 6|BD|$ ise
 $A(\triangle ABC) = 54 \text{ br}^2$ ise
 $A(\triangle DCE)$ kaç br^2 'dir?



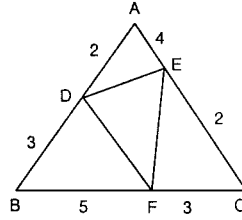
- A) $\frac{48}{5}$ B) $\frac{56}{5}$ C) 12 D) 16 E) 18

12. Şekilde ADE eşkenar üçgendir.
 $[AD] \parallel [EC]$,
 $|AE| = 4\sqrt{3} \text{ br}$,
 $|CE| = 6 \text{ br}$ ise
 $A(\triangle DEC)$ kaç br^2 'dir?



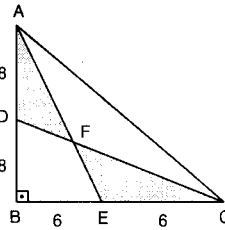
- A) 12 B) 18 C) 24 D) 30 E) 36

13. Şekilde verilenlere göre $\frac{A(\triangle ADE)}{A(\triangle DEF)}$ oranı aşağıdakilerden hangisidir?



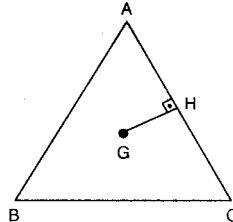
- A) $\frac{3}{7}$ B) $\frac{5}{8}$ C) $\frac{7}{8}$ D) $\frac{8}{5}$ E) $\frac{8}{7}$

14. Şekilde
 $m(\hat{B}) = 90^\circ$
 $|BD| = |AD| = 8 \text{ br}$,
 $|BE| = |EC| = 6 \text{ br}$ ise
 Taralı alanlar toplamı kaç br^2 'dir?



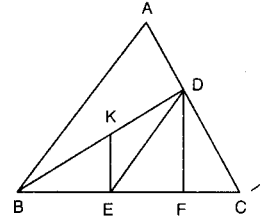
- A) 24 B) 30 C) 32 D) 36 E) 42

15. Şekilde G ağırlık merkezi, $|GH| = 3 \text{ br}$ ve $|AC| = 6 \text{ br}$ ve $[GH] \perp [AC]$ ise
 $A(\triangle ABC)$ kaç br^2 'dir?



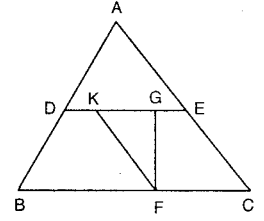
- A) 27 B) 20 C) 18 D) 12 E) 10

16. Şekilde,
 $|BK| = |KD|$,
 $2|EF| = 3|BE| = 6|FC|$,
 $5|DC| = 3|AD|$ ve
 $A(\triangle ABC) = 80 \text{ br}^2$ ise
 $A(\triangle KED)$ kaç br^2 'dir?



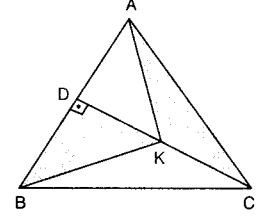
- A) 5 B) 12 C) 13 D) 16 E) 24

17. Şekilde
 $[DE] \parallel [BC]$,
 $|DE| = 2|KG|$ ve
 $\frac{|AD|}{|DB|} = \frac{2}{3}$ ise
 $\frac{A(\triangle KGF)}{A(\triangle ABC)}$ oranı kaçtır?



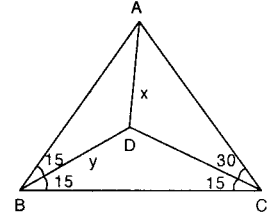
- A) $\frac{3}{25}$ B) $\frac{2}{25}$ C) $\frac{1}{25}$ D) $\frac{1}{10}$ E) $\frac{1}{5}$

18. Şekilde
 $[CD] \perp [AB]$,
 $|DK| = |KC| = 8 \text{ br}$ ve
 $|AB| = 6 \text{ br}$ ise
 Taralı alanlar toplamı kaç br^2 'dir?



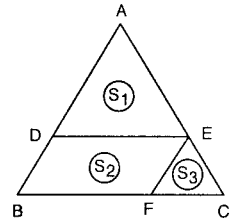
- A) 12 B) 16 C) 20 D) 24 E) 28

19. Şekilde verilenlere göre $A(\triangle ADB)$ 'nin x ve y türünden eşiti nedir?



- A) $x \cdot y$ B) $\frac{x \cdot y \sqrt{2}}{4}$ C) $\frac{x \cdot y}{4}$
 D) $\frac{x \cdot y \sqrt{3}}{4}$ E) $\frac{xy}{8}$

20. Şekilde
 DEF B paralelkenar
 $|AE| = 3|EC|$ ise
 $\frac{S_2}{S_1 + S_3}$ oranı kaçtır?

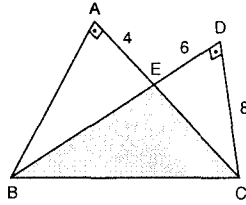


- A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) $\frac{3}{4}$ D) $\frac{4}{5}$ E) $\frac{3}{5}$

ÜÇGENDE ALAN

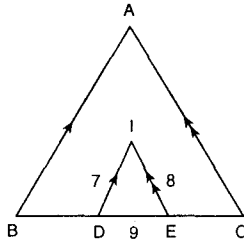
TEST 3

1. Şekilde
 $IAEI = 4$ br,
 $IDEI = 6$ br
 $IDCI = 8$ br ise
Taralı alan kaç br^2 'dir?



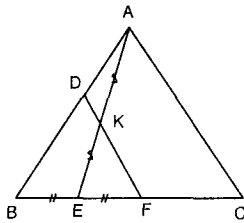
- A) $\frac{80}{3}$ B) 25 C) $\frac{70}{3}$ D) 20 E) 15

2. Şekilde I içteğet
 çemberin merkezi,
 $ID \parallel AB$,
 $IE \parallel AC$ ise
 $\Delta A(ABC)$ kaç br^2 'dir?



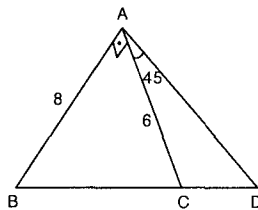
- A) $\frac{64\sqrt{5}}{3}$ B) $32\sqrt{5}$ C) $36\sqrt{5}$
 D) $\frac{128\sqrt{5}}{3}$ E) $\frac{256\sqrt{5}}{3}$

3. Şekilde
 $[DF] \parallel [AC]$
 $IAKI = IKEI$,
 $IBEI = IEFI$ ve
 $\Delta A(ADK) = 3$ br² ise
 $\Delta A(ABC)$ kaç br²'dir?



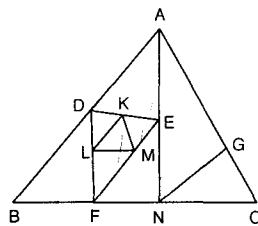
- A) 32 B) 48 C) 54 D) 60 E) 62

4. Şekilde,
 $[AB] \perp [AC]$,
 $IABI = 8$ br,
 $IACI = 6$ br
 $m(\widehat{CAD}) = 45^\circ$ ise
 $\Delta A(ACD)$ kaç br²'dir?



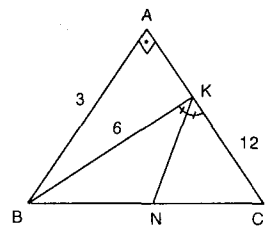
- A) 48 B) 56 C) 72 D) 108 E) 144

5. Şekilde D, E, K, L, M
 bulundukları kenar-
 ların orta noktaları,
 $IBFI = IFNI = INCI$ ve
 $IAGI = 3IGCI$ ise
 $\frac{\Delta A(KLM)}{\Delta A(NGC)}$ oranı nedir?



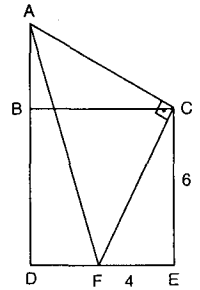
- A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) $\frac{3}{4}$ D) $\frac{5}{6}$ E) 1

6. Şekilde
 $[BA] \perp [AC]$,
 $IABI = 3$ br,
 $IBKI = 6$ br
 $IKCI = 12$ br ise
 $\Delta A(KNC)$ kaç br²'dir?



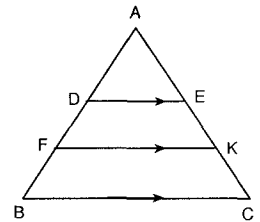
- A) 16 B) 12 C) 10 D) 8 E) 6

7. Şekilde
 $BCED$ kare,
 $[AC] \perp [FC]$,
 $IFEI = 4$ br
 $IECI = 6$ br ise
 $\Delta A(FC)$ kaç br²'dir?



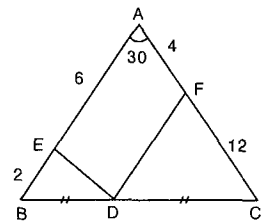
- A) 12 B) 16 C) 18 D) 21 E) 26

8. Şekilde,
 $[DE] \parallel [FK] \parallel [BC]$,
 $2IDFI = 3IFBI = 6IADI$
 ise $\frac{\Delta A(DEKF)}{\Delta A(FKCB)}$ oranı
 kaçtır?



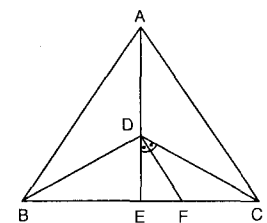
- A) $\frac{2}{3}$ B) $\frac{3}{4}$ C) $\frac{4}{5}$ D) $\frac{6}{7}$ E) $\frac{8}{9}$

9. Şekilde,
 $m(\widehat{BAC}) = 30^\circ$,
 $IEBI = 2$ br,
 $IAEI = 6$ br,
 $IAFI = 4$ br,
 $IFCI = 12$ br,
 $IBDI = IDCI$ ise
 $\Delta A(AEDF)$ kaç br²'dir?



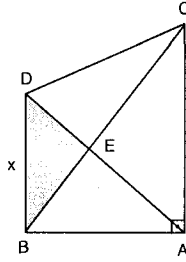
- A) 12 B) 16 C) 18 D) 24 E) 28

10. Şekilde, D noktası
 ΔABC 'nin ağırlık
 merkezi $[DF]$ açıortay
 $\frac{IDEI}{IDCI} = \frac{2}{3}$ ve
 $\Delta A(DFC) = 6$ br² ise
 $\Delta A(ABC)$ kaç br²'dir?



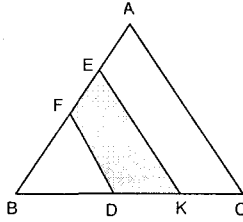
- A) 42 B) 48 C) 54 D) 60 E) 64

11. Şekilde ADC eşkenar üçgen, BAC ikizkenar ve $\triangle A(DBE) = 4 \text{ br}^2$ ise $IBDI = x$ kaç br'dir?



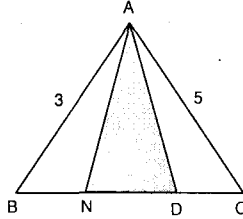
A) 2 B) 3 C) 4 D) 6 E) 8

12. Şekilde $IAEI = IEFI = IFBI$, $3IBDI = 2IDKI = 3IKCI$ ve $\triangle A(ABC) = 105 \text{ br}^2$ ise $\triangle A(FEDK)$ kaç br^2 dir?



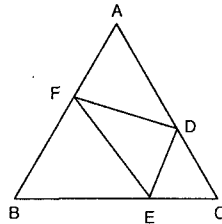
A) 30 B) 40 C) 45 D) 60 E) 75

13. Şekilde [AN] açıortay [AD] kenarortay $IABI = 3 \text{ br}$, $IACI = 5 \text{ br}$ ve $\triangle A(ABC) = 8 \text{ br}^2$ ise $\triangle A(AND)$ kaç br^2 dir?



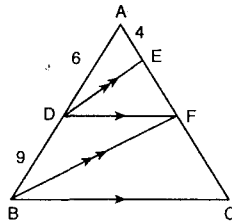
A) 1 B) 2 C) 3 D) 4 E) 6

14. Şekilde $[DE] \parallel [AB]$ $\triangle A(CDE) = 4 \text{ br}^2$, $\triangle A(DEF) = 6 \text{ br}^2$ ise $\triangle A(ABC)$ kaç br^2 dir?



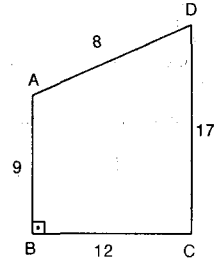
A) 25 B) 40 C) 50 D) 60 E) 70

15. Şekilde, $[DE] \parallel [EF]$, $[DF] \parallel [BC]$, $IADI = 6 \text{ br}$, $IBDI = 9 \text{ br}$ $IAEI = 4 \text{ br}$ ise $\frac{A(DBF)}{A(ABC)}$ oranı nedir?



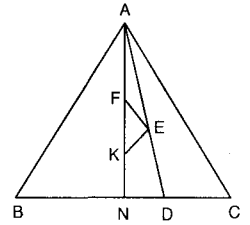
A) $\frac{6}{25}$ B) $\frac{8}{25}$ C) $\frac{2}{5}$ D) $\frac{12}{25}$ E) $\frac{14}{25}$

16. Şekilde $[AB] \perp [BC]$, $IABI = 9 \text{ br}$, $IBCI = 12 \text{ br}$, $IADI = 8 \text{ br}$, $IDCI = 17 \text{ br}$ ise $\triangle A(ABCD)$ kaç br^2 dir?



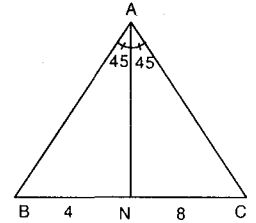
A) 72 B) 108 C) 114 D) 126 E) 144

17. Şekilde [AN] açıortay [AD] kenarortay, $7IABI = 5IACI$, $IAFI = IFKI = IKNI$, $IAEI = IEDI$ ve $\triangle A(EFK) = 2 \text{ br}^2$ ise $\triangle A(ABC)$ kaç br^2 dir?



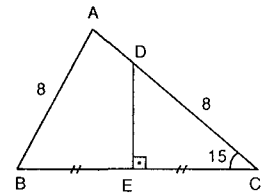
A) 96 B) 108 C) 116 D) 124 E) 144

18. Şekilde, $m(\widehat{BAN}) = m(\widehat{NAC}) = 45^\circ$, $IBNI = 4$, $INCI = 8 \text{ br}$ ise $\triangle A(ABC)$ kaç br^2 dir?



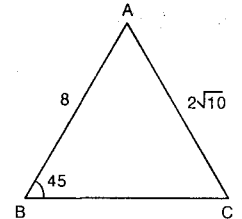
A) $\frac{36}{5}$ B) $\frac{72}{5}$ C) $\frac{108}{5}$ D) $\frac{144}{5}$ E) $\frac{148}{5}$

19. Şekilde $IABI = IDCI = 8 \text{ br}$, $IBEI = IECI$ ve $m(\widehat{C}) = 15^\circ$ ise $\triangle A(ABC)$ kaç br^2 dir?



A) $8\sqrt{3}$ B) $8 + 8\sqrt{3}$ C) $16 + 8\sqrt{3}$
D) $16 + 16\sqrt{3}$ E) $8 + 16\sqrt{3}$

20. Şekilde, $IABI = 8 \text{ br}$, $IACI = 2\sqrt{10} \text{ br}$, $m(\widehat{B}) = 45^\circ$ ise $\triangle A(ABC)$ kaç br^2 dir?



A) 24 B) 22 C) 20 D) 18 E) 16

ÜÇGENDE ALAN

TEST 4

1. Şekilde,

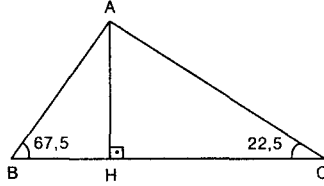
$$m(\hat{B}) = 67,5^\circ,$$

$$m(\hat{C}) = 22,5^\circ$$

ve

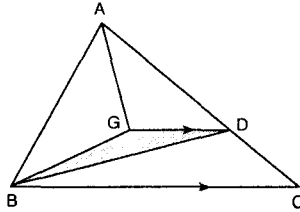
$$|AH| = 3 \text{ br ise}$$

$\Delta A(ABC)$ kaç br^2 dir?



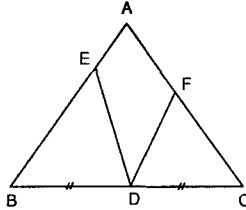
- A) $9\sqrt{2}$ B) $10\sqrt{2}$ C) $16\sqrt{2}$
D) $18\sqrt{2}$ E) 24

2. ABC üçgeninde
G ağırlık merkezi,
[GD] // [BC] ve
 $\Delta A(GBD) = 6 \text{ br}^2$
ise $\Delta A(AGD)$ kaç br^2 dir?



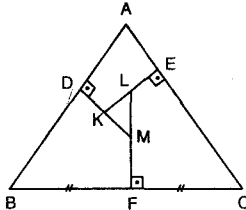
- A) 6 B) 8 C) 10 D) 12 E) 14

3. Şekilde
 $|BD| = |DC|$,
 $6|AE| = |EB|$,
 $3|AF| = 4|FC|$ ve
 $\Delta A(ABC) = 70 \text{ br}^2$ ise
 $\Delta A(AEDF)$ kaç br^2 dir?



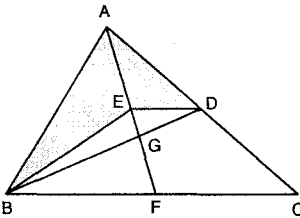
- A) 15 B) 20 C) 25 D) 30 E) 35

4. Şekilde,
 $5|KM| = 2|AB|$ ve
 $\Delta A(KLM) = 8 \text{ br}^2$ ise
 $\Delta A(ABC)$ kaç br^2 dir?



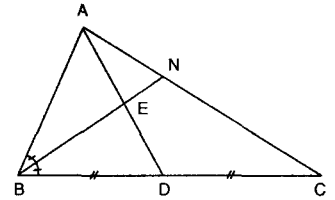
- A) 25 B) 30 C) 35 D) 40 E) 50

5. Şekilde G;
 ΔABC 'nin ağırlık
merkezi,
 $2|AE| = 3|GF|$ ve
ve
 $\Delta A(ABC) = 96 \text{ br}^2$
ise Taralı alan kaç br^2 dir?



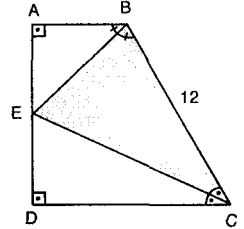
- A) 12 B) 24 C) 26 D) 36 E) 40

6. Şekilde
 $|BD| = |DC| = 3 \text{ br}$,
[BN] açıortay,
 $|AB| = 2 \text{ br}$ ise
 $\frac{\Delta A(BED)}{\Delta A(AEN)}$ oranı
kaçtır?



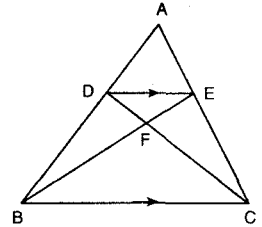
- A) 3 B) 4 C) 5 D) 6 E) 7

7. [AB] $\perp$ [AD],
[AD] $\perp$ [DC],
 $|AD| = 10 \text{ br}$ ve
 $|BC| = 12 \text{ br}$ ise
 $\Delta A(BEC)$ kaç br^2 dir?



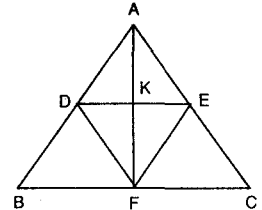
- A) 40 B) 30 C) 25 D) 20 E) 15

8. Şekilde
[DE] // [BC],
 $\frac{|AD|}{|DB|} = \frac{2}{3}$ ve
 $\Delta A(DEF) = 4 \text{ br}^2$ ise
 $\Delta A(BFC)$ kaç br^2 dir?



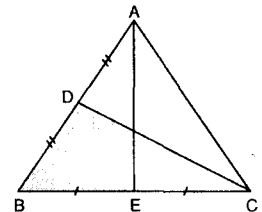
- A) 25 B) 20 C) 18 D) 16 E) 12

9. Şekilde D, E, F
orta noktalar,
 $\Delta A(K\hat{E}F) = 4 \text{ br}^2$ ise
 $\Delta A(ABC)$ kaç br^2 dir?



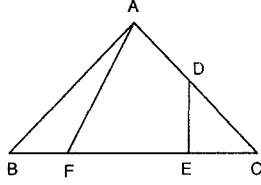
- A) 36 B) 32 C) 24 D) 20 E) 18

10. Şekilde,
 $|AD| = |DB|$,
 $|BE| = |EC|$,
 $\Delta A(ABC) = 54 \text{ br}^2$ ise
Taralı alan kaç br^2 dir?



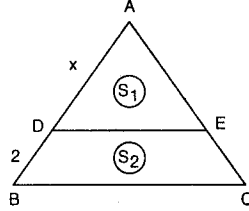
- A) 9 B) 12 C) 15 D) 18 E) 21

11. Şekilde
 $6|BF| = 2|FE| = 3|EC|$,
 $|AD| = 3|DC|$ ve
 $\Delta A(BF) = 10 \text{ br}^2$ ise
 $\Delta A(\hat{D}EC)$ kaç br^2 'dir?



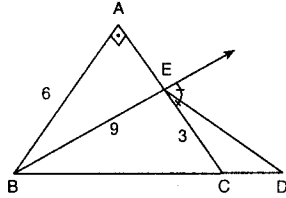
- A) 5 B) 6 C) 8 D) 10 E) 12

12. Şekilde,
 $[DE] \parallel [BC]$,
 $S_1 = 25 \text{ br}^2$,
 $S_2 = 11 \text{ br}^2$,
 $|DB| = 2 \text{ br}$ ise
 $|AD| = x$ kaç br 'dir?



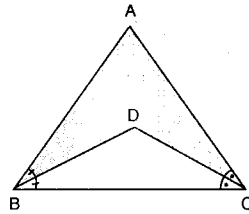
- A) 6 B) 8 C) 10 D) 11 E) 12

13. Şekilde verilen-
 Δ lere göre $\Delta A(EDC)$
 kaç br^2 'dir?



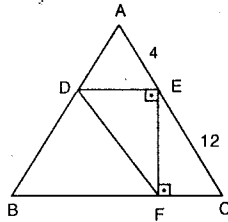
- A) 3 B) 4 C) 4,5 D) 5 E) 5,5

14. Şekilde D iç
 açıortayların
 kesim noktası,
 $3|AB| = 4|BC| = 6|AC|$
 ve $\Delta A(ABDC) = 24 \text{ br}^2$
 ise $\Delta A(ABC) = ?$



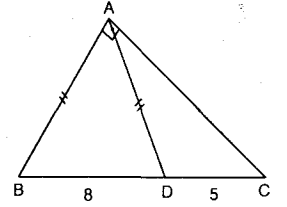
- A) 30 B) 36 C) 38 D) 40 E) 42

15. Şekilde ΔABC 'ni eşkenar
 $|AE| = 4 \text{ br}$,
 $|EC| = 12 \text{ br}$ ise
 $\Delta A(BDF)$ kaç br^2 'dir?



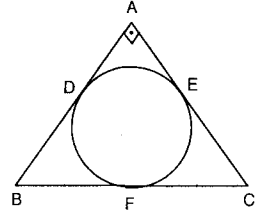
- A) $12\sqrt{3}$ B) $18\sqrt{3}$ C) $24\sqrt{3}$
 D) $30\sqrt{3}$ E) $36\sqrt{3}$

16. Şekilde
 $[BA] \perp [AC]$,
 $|AB| = |AD|$,
 $|BD| = 8 \text{ br}$,
 $|DC| = 5 \text{ br}$ ise
 $\Delta A(ADC)$ kaç br^2 'dir?



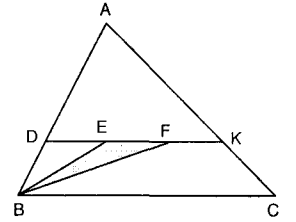
- A) 9 B) 12 C) 15 D) 18 E) 21

17. Şekilde
 $[BA] \perp [AC]$,
 $|BF| = 5 \text{ br}$,
 $|FC| = 6 \text{ br}$ ise
 $\Delta A(ABC)$ kaç br^2 'dir?



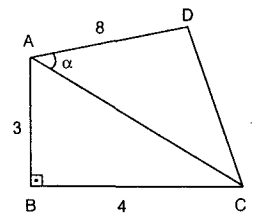
- A) 30 B) 24 C) 20 D) 18 E) 15

18. Şekilde,
 $|DE| = |EF| = |FK|$,
 $[DK] \parallel [BC]$ ve
 $2|AD| = 3|DB|$ ise
 $\frac{\Delta A(BEF)}{\Delta A(ABC)}$ kaçtır?



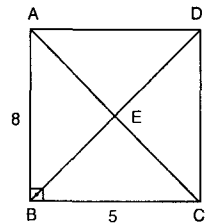
- A) $\frac{1}{25}$ B) $\frac{2}{25}$ C) $\frac{3}{25}$ D) $\frac{4}{25}$ E) $\frac{1}{5}$

19. Şekilde,
 $[AB] \perp [BC]$,
 $|AB| = 3 \text{ br}$,
 $|BC| = 4 \text{ br}$
 $[AD] = 8 \text{ br}$ ve
 $\Delta A(ADC) = 10\sqrt{3} \text{ br}^2$ ise
 α kaç derece olabilir?



- A) 15 B) 30 C) 45 D) 60 E) 75

20. Şekilde,
 $[AB] \perp [BC]$,
 $|AB| = 8 \text{ br}$,
 $[BC] = 5 \text{ br}$,
 $3|BE| = 2|ED|$ ise
 $\Delta A(ABCD)$ kaç br^2 'dir?



- A) 60 B) 50 C) 40 D) 30 E) 25

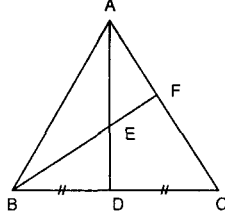
ÜÇGENDE ALAN

TEST

5

1. Şekilde AD kenarortay, $|FC| = 3|AF|$ ise

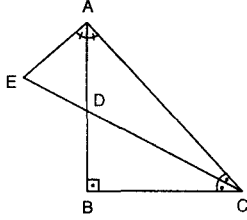
$$\frac{A(\triangle AEF)}{A(\triangle BED)} \text{ oranı kaçtır?}$$



- A) $\frac{1}{6}$ B) $\frac{2}{7}$ C) $\frac{3}{4}$ D) $\frac{4}{5}$ E) $\frac{3}{11}$

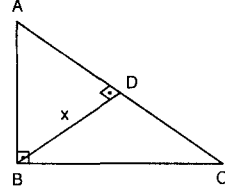
2. ABC dik üçgen $\widehat{A} \hat{E} \hat{C}$ 'nin açıortayı $[CE]$, $\widehat{B} \hat{C} \hat{A}$ 'nın açıortayıdır. $|AD| = 2|DB|$ ise

$$\frac{A(\triangle BDC)}{A(\triangle AED)} \text{ kaçtır?}$$



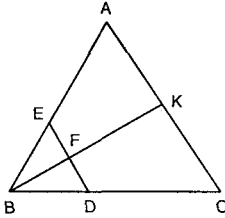
- A) 1 B) $\frac{1}{2}$ C) $\frac{1}{3}$ D) $\frac{1}{4}$ E) $\frac{1}{5}$

3. ABC dik üçgen $[BD] \perp [AC]$
 $A(\triangle ABD) = 81 \text{ br}^2$
 $A(\triangle BDC) = 9 \text{ br}^2$ ise
 $|BD| = x$ kaç birimdir?



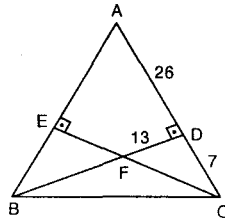
- A) $\sqrt{3}$ B) $\sqrt{6}$ C) $2\sqrt{3}$ D) $2\sqrt{6}$ E) $3\sqrt{6}$

4. ABC üçgen E, D, K orta noktalar $A(\triangle FKC) = 9 \text{ br}^2$ ise $A(\triangle ABC)$ kaç br^2 'dir?



- A) 12 B) 15 C) 18 D) 24 E) 36

5. ABC üçgen $[BD] \perp [AC]$, $[CE] \perp [AB]$, $|AD| = 26 \text{ br}$, $|DF| = 13 \text{ br}$, $|DC| = 7 \text{ br}$ ise $A(\triangle ABC)$ kaç br^2 'dir?

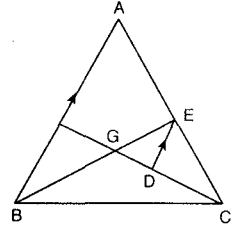


- A) 130 B) 151 C) 180 D) 231 E) 250

6. ABC üçgeninde G ağırlık merkezi $[ED] \parallel [AB]$

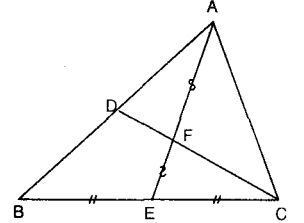
$$A(\triangle GED) = 4 \text{ br}^2 \text{ ise}$$

$$A(\triangle ABC) \text{ kaç br}^2 \text{ dir?}$$



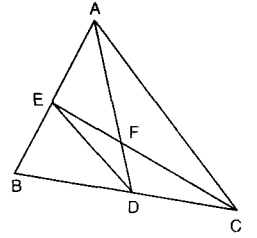
- A) 72 B) 64 C) 48 D) 36 E) 32

7. ABC üçgen $|AF| = |FE|$, $|BE| = |EC|$, $A(\triangle ADF) = 2 \text{ br}^2$ ise $A(\triangle ABC)$ kaç br^2 'dir?



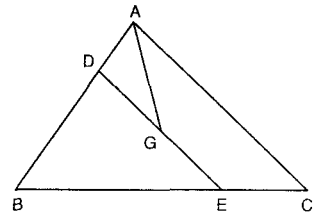
- A) 8 B) 12 C) 20 D) 22 E) 24

8. ABC üçgeninde $[ED] \parallel [AC]$
 $\frac{|BD|}{|DC|} = \frac{1}{3}$
 $A(\triangle AFC) = 64 \text{ br}^2$
 $A(\triangle ABC)$ kaç br^2 'dir?



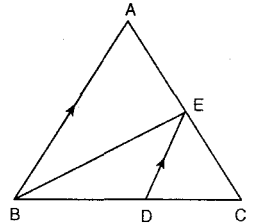
- A) $\frac{320}{3}$ B) $\frac{460}{5}$ C) $\frac{460}{7}$ D) $\frac{280}{3}$ E) $\frac{440}{7}$

9. ABC üçgeninde G ağırlık merkezi $[DE] \parallel [AC]$
 $A(\triangle ADG) = 3 \text{ br}^2$
ise $A(\triangle ABC)$ kaç br^2 'dir?



- A) 18 B) 24 C) 27 D) 30 E) 36

10. ABC üçgeninde $[ED] \parallel [AB]$
 $\frac{|CE|}{|EA|} = \frac{4}{5}$
 $A(\triangle EBD) = 10 \text{ br}^2$ ise $A(\triangle ABC)$ kaç br^2 'dir?



- A) $\frac{19}{2}$ B) $\frac{27}{2}$ C) $\frac{81}{2}$ D) $\frac{162}{5}$ E) $\frac{171}{5}$

11. Şekilde

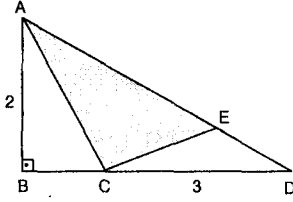
$$m(\hat{A}BD) = 90^\circ$$

$$IABI = 2 \text{ br,}$$

$$ICDI = 3 \text{ br,}$$

$$3IEDI = IAEI \text{ ise}$$

taralı alan kaç br^2 'dir?



- A) $\frac{3}{4}$ B) $\frac{5}{4}$ C) $\frac{7}{4}$ D) $\frac{9}{4}$ E) $\frac{11}{4}$

12. Şekilde

$$IAFI = IFDI = IBDI$$

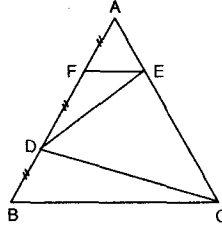
$$IECI = 3IAEI \text{ ise}$$

$$\frac{A(FED)}{A(BDC)}$$

oranı

$$A(BDC)$$

aşağıdakilerden hangisidir?



- A) $\frac{1}{5}$ B) $\frac{1}{4}$ C) $\frac{1}{3}$ D) $\frac{1}{2}$ E) 1

13. Şekilde

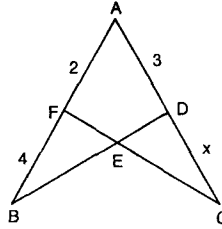
$$IAFI = 2 \text{ br,}$$

$$IADI = 3 \text{ br}$$

$$IFBI = 4 \text{ br}$$

$$A(FBE) = A(DEC) \text{ ise}$$

$$IDCI = x \text{ kaç br'dir?}$$

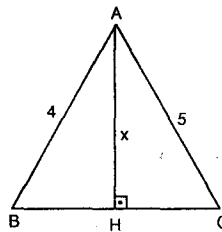


- A) 4 B) 5 C) 6 D) 7 E) 8

14. $\triangle ABC$ de; $IABI = 4 \text{ br,}$

$$IACI = 5 \text{ br ise}$$

$A(ABC)$ 'nin en büyük değeri için $IAHI = x$ kaç br 'dir?



- A) $\frac{20\sqrt{41}}{41}$ B) $\frac{5\sqrt{41}}{41}$ C) $\frac{3\sqrt{41}}{41}$
D) $\frac{2\sqrt{41}}{41}$ E) $\frac{\sqrt{41}}{41}$

15. Yandaki şekilde

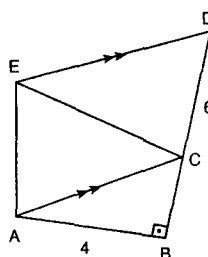
$$[ED] \parallel [AC]$$

$$[AB] \perp [CB]$$

$$IABI = 4 \text{ br}$$

$$ICDI = 6 \text{ br ise}$$

$A(\hat{A}EC)$ kaç birimkaredir?



- A) 8 B) 12 C) 16 D) 20 E) 32

16. ABCD yamuk

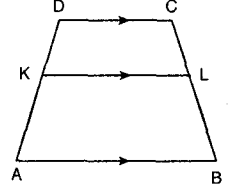
$$[KL] \parallel [AB] \text{ dir.}$$

$$A(ABKL) = 2.A(DKLC) \text{ ve}$$

$$IDCI = 4 \text{ br,}$$

$$IABI = 8 \text{ br ise}$$

IKLI kaç birimdir?



- A) $3\sqrt{2}$ B) 4 C) $4\sqrt{2}$ D) 5 E) $6\sqrt{2}$

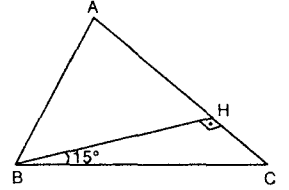
17. ABC üçgeninde

$$[BH] \perp [AC] \text{ dir.}$$

$$5ICHI = IACI \text{ ve}$$

$$IBCI = 12 \text{ br ise}$$

$A(ABC)$ kaç br^2 'dir?



- A) 56 B) 60 C) 64 D) 86 E) 90

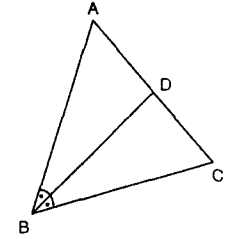
18. ABC üçgeninde

$$IACI = IBCI = 6 \text{ br}$$

$$IABI = 4 \text{ br,}$$

$$[BD]$$
 açıortaydır.

$A(ABD)$ kaç br^2 'dir?



- A) $\frac{8\sqrt{2}}{3}$ B) $\frac{8\sqrt{2}}{7}$ C) $\frac{16\sqrt{2}}{5}$
D) $\frac{32\sqrt{2}}{3}$ E) $\frac{18\sqrt{2}}{5}$

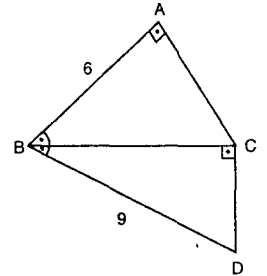
19. Şekilde $[BC]$ açıortay

$$m(\hat{A}) = m(\hat{B}CD) = 90^\circ,$$

$$IABI = 6 \text{ cm,}$$

$$IBDI = 9 \text{ cm ise}$$

$A(ABC)$ kaç cm^2 'dir?



- A) $4\sqrt{2}$ B) $6\sqrt{2}$ C) $7\sqrt{2}$
D) $8\sqrt{2}$ E) $9\sqrt{2}$

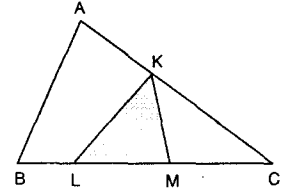
20. Şekilde

$$3ILMI = 2IMCI = 12IBLI$$

$$IKCI = 4IAKI \text{ ve}$$

$$A(ABC) = 55 \text{ cm}^2$$

ise taralı alan kaç cm^2 'dir?



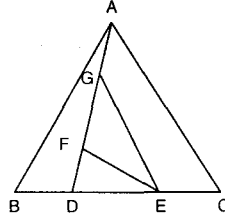
- A) 10 B) 12 C) 14 D) 16 E) 18

ÜÇGENDE ALAN

TEST 6

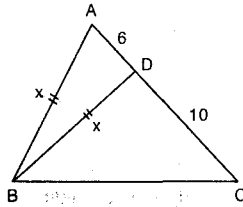
1. Şekilde
 $8IGF = 3IAD$
 $4IEC = 3IDE$
 $6IDC = 7IBE$
 $A(ABC) = 72 \text{ cm}^2$
 olduğuna göre

Δ
 $A(FEG)$ kaç cm^2 'dir?



- A) 9 B) 12 C) 15 D) 18 E) 21

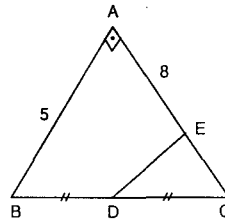
2. Şekilde
 $IAI = IBI = x \text{ cm}$,
 $IAD = 6 \text{ cm}$
 $IDC = 10 \text{ cm}$
 $A(ABC) = 32 \text{ cm}^2$ ise
 $IBDI = x$ kaç cm^2 'dir?



- A) 3 B) 4 C) 5 D) 6 E) 7

3. Şekildeki ABC
 üçgeninde
 $[BA] \perp [AC]$
 $IBDI = IDC$
 $IBC = 13 \text{ br}$
 $IAI = 5 \text{ br}$
 $IAEI = 8 \text{ br}$ ise

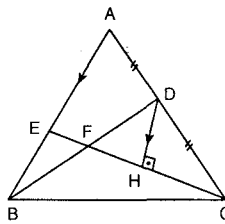
Δ
 $A(DEC)$ kaç br^2 'dir?



- A) 15 B) 12 C) 9 D) 5 E) 3

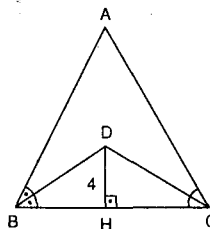
4. Şekilde
 $[DH] \perp [EC]$
 $[DH] \parallel [AB]$
 $[BD]$ kenarortay
 $IDHI = IEI = 3 \text{ cm}$
 $IEHI = 4 \text{ cm}$ olduğuna

göre Δ
 $A(BDC)$ kaç cm^2 'dir?



- A) 12 B) 16 C) 18 D) 24 E) 36

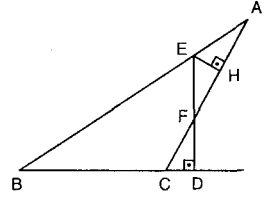
5. Şekildeki ABC üçgeninde
 $[BD]$ ve $[CD]$ açıortaydır,
 $[DH] \perp [BC]$
 $IDHI = 4 \text{ cm}$
 Δ
 $A(ABC) = 56 \text{ cm}^2$
 olduğuna göre
 Δ
 $A(ABC)$ kaç cm^2 'dir?



- A) 14 B) 20 C) 28 D) 30 E) 32

6. Şekilde
 $[AC] \perp [EH]$
 $[BD] \perp [ED]$
 $IACI = 5 \text{ cm}$,
 $IEHI = 2 \text{ cm}$
 $IEDI = 4 \text{ cm}$
 $IBC = 7 \text{ cm}$ ise

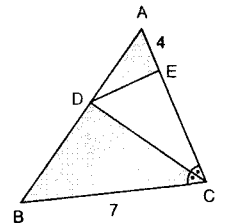
Δ
 $A(ABC)$ kaç cm^2 'dir?



- A) 28 B) 24 C) 19 D) 17 E) 14

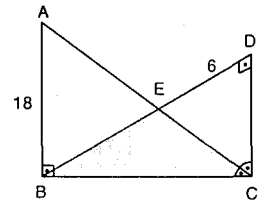
7. Şekildeki ABC üçgeninde
 $[CD]$ açıortay
 Δ Δ
 $A(BCD) - A(ADE) = 12 \text{ cm}^2$
 $IBC = 7 \text{ cm}$,
 $IAEI = 4 \text{ cm}$

verilenlere göre Δ
 $A(BCD)$ kaç cm^2 'dir?



- A) 18 B) 21 C) 24 D) 25 E) 28

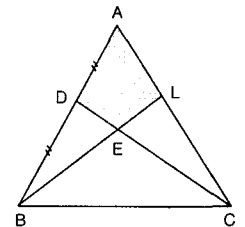
8. Şekilde
 $[AB] \perp [BC]$
 $[BD] \perp [CD]$
 $IEDI = 6 \text{ cm}$
 $IAI = 18 \text{ cm}$
 Verilenlere göre
 Δ
 $A(BCE)$ kaç cm^2 'dir?



- A) $27\sqrt{2}$ B) $36\sqrt{2}$ C) $48\sqrt{2}$
 D) $54\sqrt{2}$ E) $72\sqrt{2}$

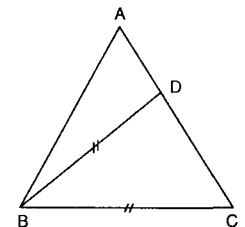
9. ABC üçgeninde
 $IAD = IBI$
 $ICEI = 4 \cdot IEDI$
 $A(AEL) = 21 \text{ cm}^2$ dir.

Verilenlere göre
 Δ
 $A(ABC)$ kaç cm^2 'dir?



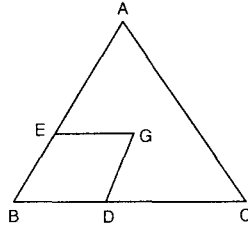
- A) 63 B) 72 C) 84 D) 90 E) 120

10. Şekildeki ABC
 üçgeninde
 $IBC = IBD$
 $IAD = 4 \text{ cm}$
 $IDCI = 10 \text{ cm}$ ve
 Δ
 $A(ABD) = 24 \text{ cm}^2$ ise
 IBC kaç cm^2 'dir?



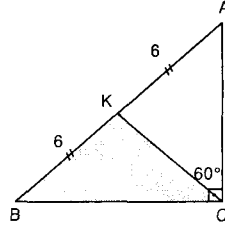
- A) 10 B) 12 C) 13 D) 15 E) 176

11. ABC üçgeninde
G ağırlık merkezi
[EG] // [BC]
[GD] // [AB]
 $A(GBED) = 2 \text{ br}^2$ ise
 $A(ABC)$ kaç br^2 dir?



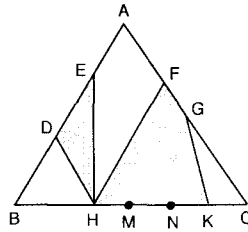
A) 5 B) 6 C) 7 D) 8 E) 9

12. Yandaki şekilde
 $m(\hat{ACB}) = 90^\circ$
 $m(\hat{KCA}) = 60^\circ$
 $IAKI = IKBI = 6 \text{ br}$ ise
taralı alan kaç br^2 dir?



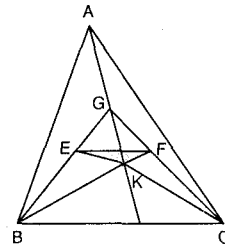
A) $6\sqrt{3}$ B) $8\sqrt{3}$ C) $9\sqrt{3}$
D) $\frac{9\sqrt{3}}{2}$ E) $18\sqrt{3}$

13. Şekildeki ABC'de [AB] kenarı ve [AC] kenarı 3, [BC] kenarı 5 eş parçaya ayrılmıştır.
 $A(ABC) = 240 \text{ br}^2$ ise
taralı alanlar toplamı kaç br^2 dir?



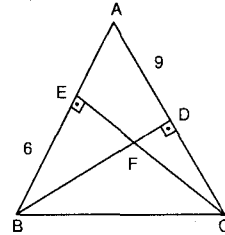
A) 118 B) 128 C) 136 D) 148 E) 150

14. Şekilde G, ABC'nin, K ise BGC'nin ağırlık merkezidir. $A(EFK) = 6 \text{ br}^2$ ise ABC'nin alanı kaç br^2 dir?



A) 72 B) 108 C) 144 D) 216 E) 288

15. ABC'de $IABI = IACI$,
 $ADI = 9 \text{ br}$,
 $IEBI = 6 \text{ br}$
 $A(ABC)$ kaç br^2 dir?



A) 45 B) 60 C) 75 D) 90 E) 120

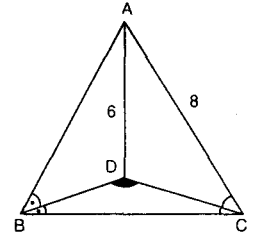
16. ABC'de [DB], B açısının [DC], C açısının açıortayıdır.

$$m(\hat{BDC}) = 135^\circ$$

$$ADI = 6 \text{ br},$$

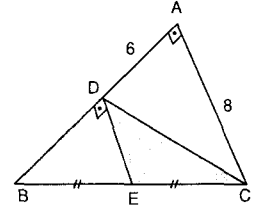
$$ACI = 8 \text{ br}$$

$A(ADC)$ kaç br^2 dir?



A) $3\sqrt{2}$ B) $6\sqrt{2}$ C) $9\sqrt{2}$
D) $12\sqrt{2}$ E) $15\sqrt{2}$

17. ABC de $ADI = 6 \text{ br}$,
 $ACI = 8 \text{ br}$,
 $IBEI = IECI$ ise
taralı alan kaç br^2 dir?



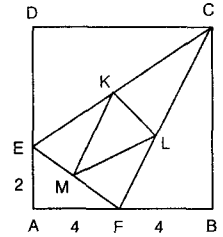
A) 10 B) 12 C) 16 D) 20 E) 24

18. ABCD kare K, L, M bulundukları kenarların orta noktalarıdır.

$$IEAI = 2 \text{ br},$$

$$IAFI = IFBI = 4 \text{ br}$$

$A(KLM)$ kaç br^2 dir?



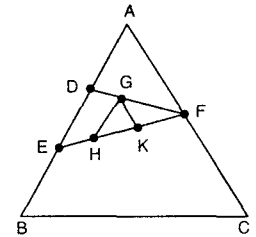
A) 4 B) 5 C) 6 D) 8 E) 10

19. Şekilde $IAFI = IFCI$
[AB], 3 eş;
[DF], 2 eş;
[EF], 3 eş parçaya ayrılmıştır.

$A(GHK) = 2 \text{ br}^2$ ise

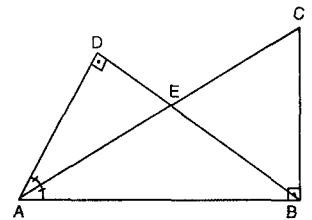
$A(ABC)$ kaç br^2 dir?

A) 36 B) 48 C) 54 D) 60 E) 72



20. Şekilde
 $IEDI = 4 \text{ br}$
 $IDBI = 16 \text{ br}$ ve

$A(ABC)$ kaç br^2 dir?



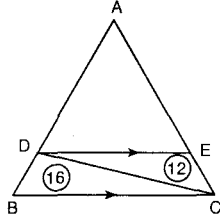
A) $\frac{48\sqrt{2}}{5}$ B) $28\sqrt{2}$ C) $72\sqrt{2}$
D) $\frac{108\sqrt{2}}{5}$ E) $68\sqrt{3}$

ÜÇGENDE ALAN

TEST

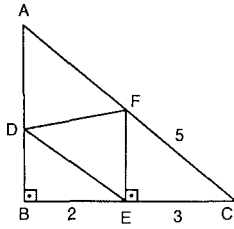
7

1. ABC üçgeninde
 $[DE] \parallel [BC]$,
 $A(DEC) = 12 \text{ br}^2$ ve
 $A(DBC) = 16 \text{ br}^2$ ise
 $A(ADE)$ kaç br^2 dir?



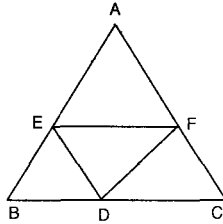
A) 30 B) 32 C) 36 D) 42 E) 48

2. Yandaki şekilde
 $AB \perp BC$,
 $FE \perp BC$
 $IFCI = 5 \text{ cm}$,
 $IECI = 3 \text{ cm}$,
 $IBEI = 2 \text{ cm}$ ise
 $A(DECF)$ kaç cm^2 dir?



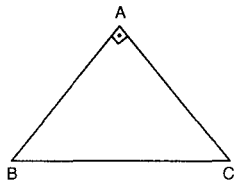
A) 6 B) 8 C) 10 D) 12 E) 14

3. ABC üçgeninde
 $[EF] \parallel [BC]$,
 $A(\triangle AEF) = 9 \text{ cm}^2$,
 $A(\triangle DEF) = 6 \text{ cm}^2$ ise
 $A(\triangle ABC)$ kaç cm^2 dir?



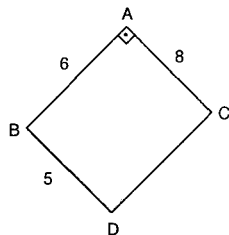
A) 15 B) 20 C) 25 D) 35 E) 45

4. ABC üçgeninde
 $[BA] \perp [AC]$ A noktası
hareketli bir nokta
olduğuna göre $|BC| = 18$
cm ise **$A(ABC)$ nin
alacağı en büyük
değer tamsayı değeri kaçtır?**



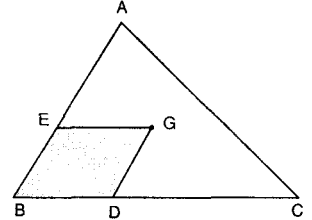
A) 36 B) 48 C) 72 D) 81 E) 196

5. Yandaki şekilde
 $[BA] \perp [AC]$ iken
 **$A(ABCD)$ nin alacağı en
büyük tamsayı değeri
kaçtır?**



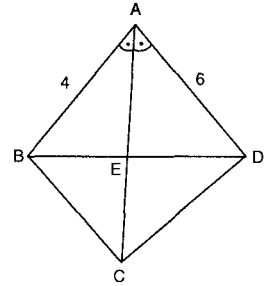
A) 48 B) 49 C) 50 D) 60 E) 10

6. G noktası ABC
üçgeninin ağırlık
merkezi EBDG
paralelkenar
 $A(ABC) = 27$ ise
 **$A(EBDG)$ kaç
 cm^2 dir?**



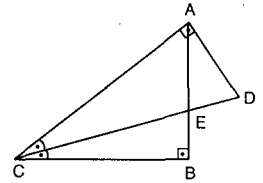
A) 3 B) 4 C) 6 D) 9 E) 12

7. $[AE]$, $\hat{A}D$ açısının
açıortaydır.
 $|ABI| = 4 \text{ cm}$,
 $|ADI| = 6 \text{ cm}$ ise
 **$\frac{A(\triangle ABC)}{A(ABCD)}$ oranı
kaçtır?**



A) $\frac{2}{5}$ B) $\frac{1}{2}$ C) $\frac{3}{5}$ D) $\frac{3}{4}$ E) $\frac{4}{5}$

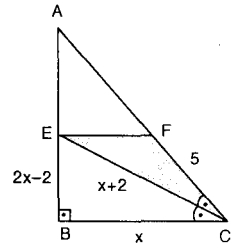
8. Yandaki şekilde
 $[CA] \perp [AD]$,
 $[CB] \perp [AB]$,
 $[CE]$ açıortay
 $|AEI| = 5 \text{ cm}$,
 $|EBI| = 3 \text{ cm}$ ise
 $A(\triangle CAD)$ kaç cm^2 dir?



$A(\triangle CAD)$ kaç cm^2 dir?

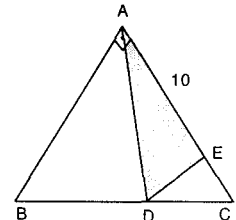
A) 15 B) 20 C) 25 D) 30 E) 50

9. $[AB] \perp [BC]$, $[CE]$ açıortay
 $|BEI| = 2x - 2 \text{ cm}$,
 $|BCI| = x \text{ cm}$,
 $|ECI| = x + 2 \text{ cm}$,
 $|FCI| = 5 \text{ cm}$ ise
 $A(\triangle CEF)$ kaç cm^2 dir?



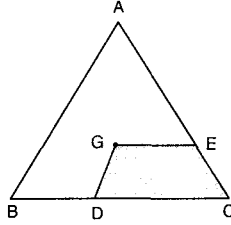
A) 6 B) 8 C) 10 D) 12 E) 15

10. $[BA] \perp [AC]$,
 $|BDI| = 3|DCI|$,
 $|ABI| = 12 \text{ cm}$,
 $|AEI| = 10 \text{ cm}$ ve
 $[DE] \parallel [AB]$ ise
 $A(\triangle AED)$ kaç cm^2 dir?



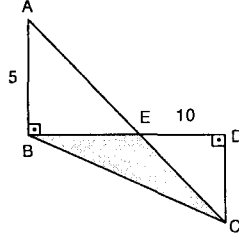
A) 10 B) 15 C) 20 D) 25 E) 30

11. ABC üçgeninde
G ağırlık merkezi
[GE] // [BC],
[GD] // [AB] ve
 $A(ABC) = 90 \text{ cm}^2$ ise **taralı bölgenin alanı kaç cm^2 'dir?**



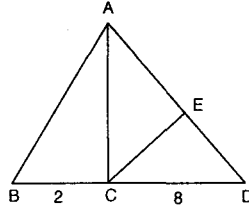
A) 15 B) 20 C) 25 D) 30 E) 45

12. Yandaki şekilde
[AB] $\perp$ [BD],
[DC] $\perp$ [BD] dir.
IBI = 5 cm,
IEDI = 10 cm ise
 $A(BEC)$ kaç cm^2 'dir?



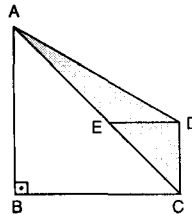
A) 15 B) 20 C) 25 D) 30 E) 50

13. ABC üçgeninde
IBCI = 2 cm,
ICDI = 8 cm,
 $\frac{A(ABC)}{A(ACE)}$ ise
 $\frac{IEDI}{IAEI}$ oranı kaçtır?



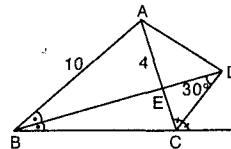
A) 1 B) 2 C) 3 D) 4 E) 5

14. Yandaki şekilde
[AB] $\perp$ [BC],
[DE] // [BC]
IABI = 10 cm
taralı alan 20 cm^2 ise
IDEI kaç cm^2 'dir?



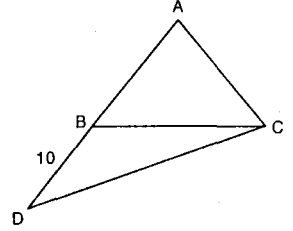
A) 2 B) 4 C) 6 D) 8 E) 10

15. Yandaki şekilde
[BD], [CD] açıortay,
IABI = 10 cm,
IAEI = 4 cm ise
 $\frac{A(ACD)}{A(ABC)}$ oranı kaçtır?



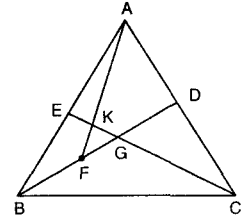
A) $\frac{1}{3}$ B) $\frac{2}{3}$ C) $\frac{3}{4}$ D) $\frac{4}{3}$ E) $\frac{3}{2}$

16. Şekilde A, B,
D doğrusal
IBCI = 2 cm,
IBDI = 10 cm
IABI = IACI
 $m(\hat{DBC}) = 2m(\hat{BCD})$
ve
 $A(ADC) = 50 \text{ cm}^2$
ise **$A(ABC)$ kaç cm^2 'dir?**



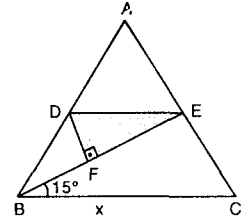
A) 5 B) 10 C) 15 D) 20 E) 25

17. ABC üçgeninde
G ağırlık merkezi
IBFI = IFGI ve
 $\frac{A(KFG)}{A(ABC)}$ ise **$A(ABC)$ kaç cm^2 'dir?**



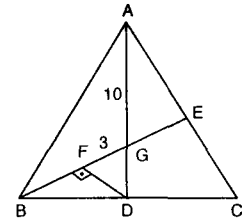
A) 12 B) 24 C) 36 D) 48 E) 60

18. Yandaki şekilde
IADI = IDBI,
IAEI = IECI
 $m(\hat{CBE}) = 15^\circ$,
 $\frac{A(DFE)}{A(ABC)}$ ise **IBC kaç cm 'dir?**



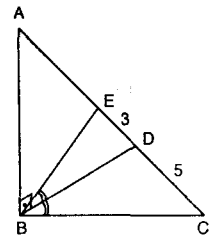
A) 48 B) 32 C) 24 D) 18 E) 12

19. ABC üçgeninde
ICAI = IBCI
[DF] $\perp$ [BE]
IAGI = 10 cm,
IFGI = 3 cm ise
 $A(ABC)$ kaç cm^2 'dir?



A) 60 B) 90 C) 100 D) 120 E) 180

20. Yandaki şekilde
[AB] $\perp$ [BD],
 $m(\hat{EBD}) = m(\hat{DBC})$
IEDI = 3 cm,
IDCI = 5 cm ve
 $A(BDC) = 20 \text{ br}^2$
 $A(ABD)$ kaç cm^2 'dir?

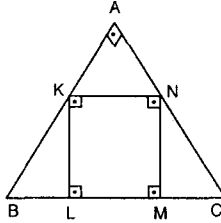


A) 24 B) 36 C) 45 D) 48 E) 60

ÜÇGENDE ALAN

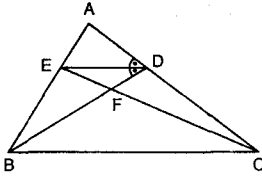
TEST 8

1. ABC dik üçgeninde
 $IACI \neq IABI$ ve
 $[BL]$ ile $[MC]$ birer tam-
 sayıdır.
 $IBLI + IMCI = 10$ cm ise
KLMN karesinin alanı
en büyük kaç cm^2 dir?



A) 16 B) 20 C) 21 D) 24 E) 25

2.



Şekilde $[DE]$ açkırtay ve $[BC] \parallel [DE]$ dir.

$IBDI = 2IADI$ ve $A(\triangle AED) + A(\triangle BEF) = 20$ br² ise

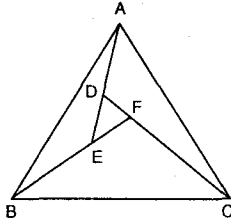
$A(\triangle FBC)$ kaç br²dir?

A) 40 B) 36 C) 32 D) 30 E) 24

3. Şekilde
 $IADI = IDEI$
 $IBEI = IEFI$ ve
 $ICFI = 2 \cdot ICFI$ dir.

$A(\triangle ABC) = 120$ br² ise

$A(\triangle DEF)$ kaç br²dir?

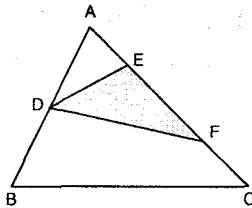


A) 12 B) 15 C) 18 D) 20 E) 24

4. Şekilde
 $IADI = 2IBDI$ ve
 $5IEFI = 2IACI$ dir.

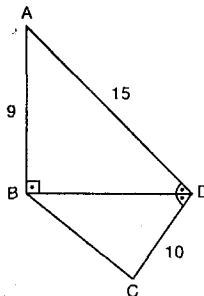
$A(\triangle ABC) = 30$ br² ise

$A(\triangle DEF)$ kaç br²dir?



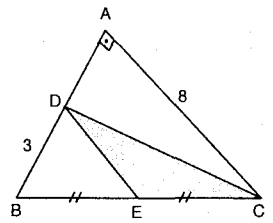
A) 12 B) 10 C) 9 D) 8 E) 6

5. Şekilde
 $[AB] \perp [BD]$ ve
 $m(\angle ADB) = m(\angle BDC)$ dir.
 $IABI = 9$ cm,
 $ICDI = 10$ cm,
 $IADI = 15$ cm ise
 $A(ABCD)$ kaç cm^2 dir?



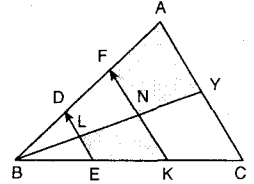
A) 72 B) 84 C) 90 D) 96 E) 108

6. Şekilde
 $[AB] \perp [AC]$ ve
 $IBEI = IECI$ dir.
 $IACI = 8$ cm,
 $IBDI = 3$ cm ise
 $A(\triangle DEC)$ kaç cm^2 dir?



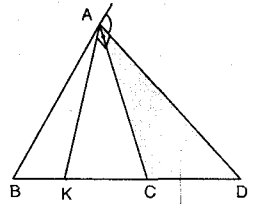
A) 12 B) 10 C) 9 D) 8 E) 6

7. ABC üçgeninde;
 $[DE] \parallel [KF] \parallel [AC]$
 $6IBEI = 3IEKI = 2IKCI$
 $A(\triangle EKNL) = 4$ br²
 $A(\triangle FNYA) = 54$ br² ise
 $\frac{IKNI}{INFI}$ oranı kaçtır?



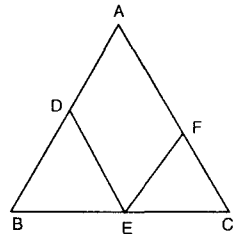
A) $\frac{1}{4}$ B) $\frac{1}{3}$ C) $\frac{1}{2}$ D) $\frac{3}{4}$ E) $\frac{4}{5}$

8. ABC üçgeninde
 $[AD]$ dış açırtay
 $[AK] \perp [AD]$
 $A(\triangle ABK) = 8$ br²
 $A(\triangle AKC) = 6$ br² ise
 $A(\triangle ACD)$ üçgeninin alanı
kaç br²dir?



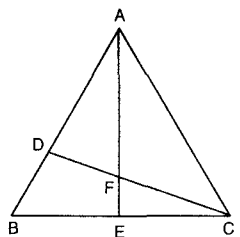
A) 28 B) 35 C) 42 D) 45 E) 56

9. ABC üçgeninde
 $2IADI = 3IBDI$
 $5IBEI = 4IECI$
 $3ICFI = IAFI$ ise
 $\frac{A(\triangle FEC)}{A(\triangle DBE)}$ oranı kaçtır?



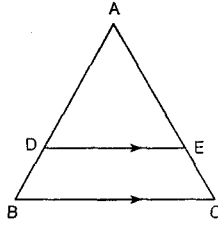
A) $\frac{7}{16}$ B) $\frac{9}{16}$ C) $\frac{21}{32}$ D) $\frac{2}{3}$ E) $\frac{25}{32}$

10. ABC üçgeninde
 $2IBDI = IADI$
 $IBEI = IECI$ ise
 $\frac{A(\triangle ADF)}{A(\triangle FEC)}$ oranı kaçtır?



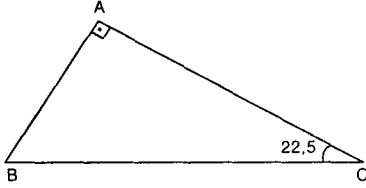
A) 2 B) $\frac{7}{3}$ C) $\frac{8}{3}$ D) 3 E) $\frac{10}{3}$

11. Şekilde
[DE] // [BC] ve
 $A(\triangle ADE) = 2.A(\triangle CED)$ dir.
|AB| = 6 br ise |AD| kaç
br'dir?



- A) $2\sqrt{3}$ B) $3\sqrt{2}$ C) $2\sqrt{5}$
D) $2\sqrt{6}$ E) 5

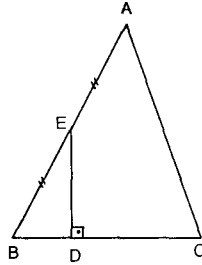
12.



Şekilde, [BA] $\perp$ [AC], $m(\angle BCA) = 22,5$ ve
|BC| = 8 br ise $A(\triangle ABC)$ kaç br²dir?

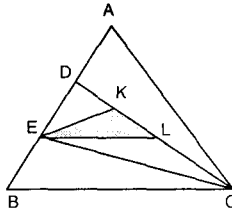
- A) $8\sqrt{2}$ B) $6\sqrt{2}$ C) $5\sqrt{2}$
D) 4 E) 3

13. Şekilde
[ED] $\perp$ [BC],
|AE| = |EB|,
|ED| = 8 br ve
|BC| = 10 br ise $A(\triangle ABC)$
kaç br²dir?



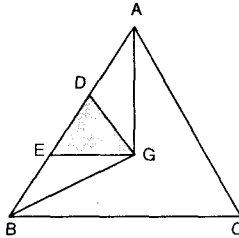
- A) 56 B) 64 C) 72 D) 80 E) 90

14. Şekilde,
 $|KL| = \frac{|DC|}{4}$,
 $|DE| = \frac{|AB|}{3}$ ve
 $A(\triangle ABC) = 84$ br² ise
 $A(\triangle EKL)$ kaç br²dir?



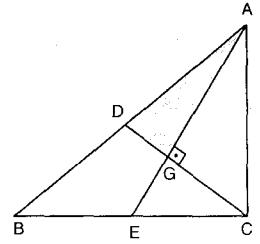
- A) 6 B) 7 C) 12 D) 14 E) 16

15. Şekilde,
G noktası $\triangle ABC$ 'nin
ağırlık merkezi
|AB| = 3|DE| ve
 $A(\triangle DEG) = 6$ br² ise
 $A(\triangle ABC)$ kaç br²dir?



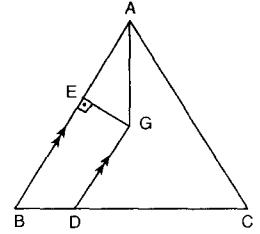
- A) 45 B) 48 C) 54 D) 62 E) 66

16. Şekilde G, $\triangle ABC$ 'nin
ağırlık merkezi
|BC| = 10 br,
|AE| = 9 br ise
Taralı alan kaç
br²dir?



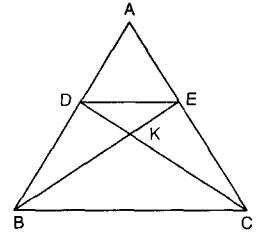
- A) 12 B) 10 C) 8 D) 6 E) 4

17. Şekilde,
G ağırlık merkezi
[GD] // [AB],
|GD| = 4 br,
|EG| = 3 br ise $A(\triangle ABC)$
kaç br²dir?



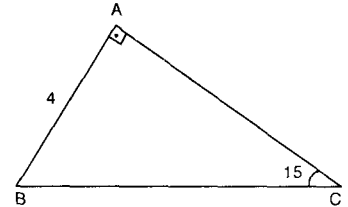
- A) 54 B) 42 C) 27 D) 20 E) 12

18. Şekilde,
[DE] // [BC],
3|AE| = 2|EC| ise
 $\frac{A(\triangle ADE)}{A(\triangle KDE)}$ oranı nedir?



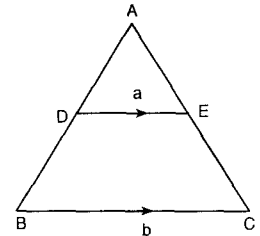
- A) $\frac{14}{3}$ B) $\frac{10}{3}$ C) $\frac{7}{3}$ D) $\frac{5}{3}$ E) $\frac{1}{3}$

19. Şekilde,
[BA] $\perp$ [AC],
|AB| = 4 br
 $m(\angle ACB) = 15^\circ$
ise $A(\triangle ABC)$
kaç br²dir?



- A) $2 + \sqrt{3}$ B) $3 + \sqrt{3}$ C) $4 + \sqrt{3}$
D) $4 + 2\sqrt{3}$ E) $16 + 8\sqrt{3}$

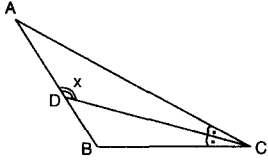
20. Şekilde,
[DE] // [BC],
|DE| = a br,
|BC| = b br ve
 $3a^2 + ab - 2b^2 = 0$ ise
 $\frac{A(\triangle ADE)}{A(\triangle DEBC)}$ oranı
kaçtır?



- A) $\frac{2}{3}$ B) $\frac{3}{4}$ C) $\frac{4}{5}$ D) $\frac{5}{7}$ E) $\frac{4}{9}$

TARAMA - 1

1.



Şekildeki ABC üçgeninde; [CD] açıortaydır.

$m(\hat{ABC}) - m(\hat{BAC}) = 80^\circ$ ise, $m(\hat{ADC}) = x$ kaç derecedir?

A) 110 B) 120 C) 130 D) 140 E) 145

2.

Şekilde;

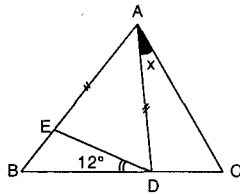
$IABI = IACI$,

$IAEI = IADI$,

$m(\hat{BDE}) = 12^\circ$ ise

$m(\hat{DAC}) = x$ kaç derecedir?

A) 30 B) 24 C) 20 D) 18 E) 16



3.

Şekilde;

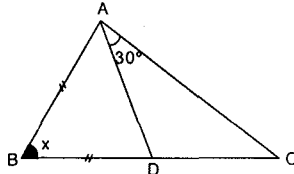
$IACI = IBCI$,

$IABI = IBDI$,

$m(\hat{DAC}) = 30^\circ$ ise

$m(\hat{DBA}) = x$ kaç derecedir?

A) 60 B) 65 C) 70 D) 75 E) 80



4.

Yandaki şekilde,

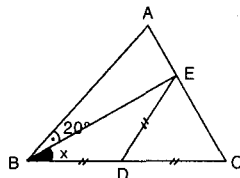
$IABI = IACI$,

$IBDI = IDCI = IDEI$ ve

$m(\hat{ABE}) = 20^\circ$ ise,

$m(\hat{EBD}) = x$ kaç derecedir?

A) 20 B) 29 C) 35 D) 40 E) 55



5.

Şekildeki ABC

üçgeninde;

$IABI = IBCI$,

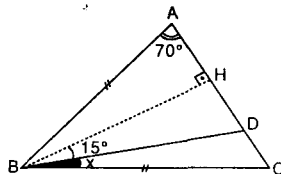
$[BH] \perp [AC]$,

$m(\hat{BAC}) = 70^\circ$,

$m(\hat{HBD}) = 15^\circ$ ise,

$m(\hat{DBC}) = x$ kaç derecedir?

A) 5 B) 10 C) 15 D) 20 E) 25



6.

ABC üçgeninde

$IADI = IDCI$,

$IDEI = IDBI = IECI$,

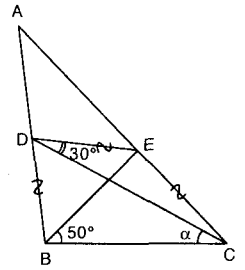
$m(\hat{EBC}) = 50^\circ$,

$m(\hat{EDC}) = 30^\circ$ ve

$m(\hat{DCB}) = \alpha$ ise

$m(\hat{DCB}) = \alpha$ kaç derecedir?

A) 15 B) 20 C) 25 D) 30 E) 35



7.

ABC dik üçgeninde

$[AD] \perp [EC]$,

$[AD]$ kenarortay,

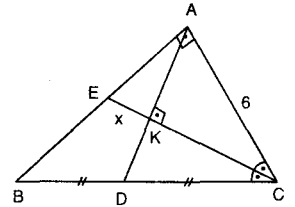
$[CE]$ açıortay ve

$IACI = 6$ cm

$IEKI = x$ kaç

cm'dir?

A) 1 B) $\sqrt{3}$ C) 2 D) $\sqrt{5}$ E) $\sqrt{6}$



8.

ABC ve ACE dik

üçgenlerdir.

$[AB] \perp [BC]$,

$[AC] \perp [CE]$,

$[AE]$ açıortay

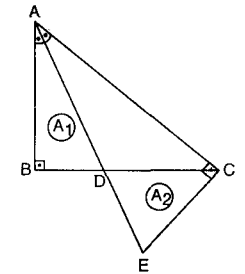
$\Delta A(ABD) = A_1$ ve

$\Delta A(DEC) = A_2$ dir.

$IACI = 2 \cdot IABI$ ise $\frac{A_1}{A_2}$ oranı

nedir?

A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) $\frac{4}{3}$ E) 2



9.

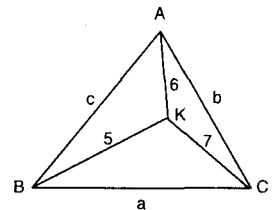
Şekilde, $IKCI = 7$ br,

$IKAI = 6$ br ve

$IKBI = 5$ br dir.

a + b toplamının alabileceği en büyük tamsayı değeri kaçtır?

A) 28 B) 27 C) 25 D) 24 E) 23



10.

Şekildeki ABC eşkenar

üçgeninde, $[PL] \parallel [BC]$,

$[PM] \parallel [AB]$ ve

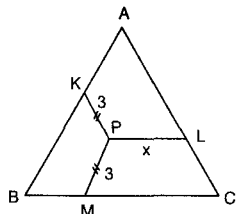
$[PK] \parallel [AC]$ dir.

$IPKI = IPMI = 3$ cm ve

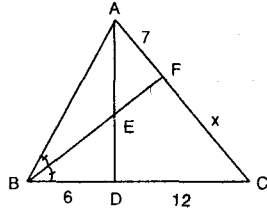
$IACI = 10$ cm ise

$IPLI = x$ kaç cm'dir?

A) 4 B) 4,5 C) 5 D) 5,5 E) 6

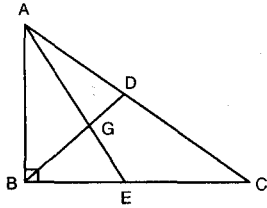


11. Şekilde
 $IBDI = 6$ cm,
 $IDCI = 12$ cm,
 $IAFI = 7$ cm ve
 $\frac{IEAI}{IEDI} = \frac{3}{2}$ ise
 $IFCI = x$ kaç cm'dir?



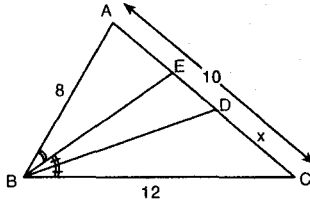
A) 14 B) 13 C) 12 D) 9 E) 8

12. ABC dik üçgeninde
 G noktası ağırlık
 merkezidir.
 $IACI = 30$ cm ise
 $IBGI$ kaç cm'dir?



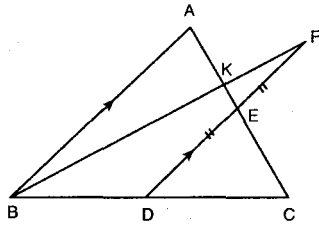
A) 5 B) 6 C) 8 D) 10 E) 12

13. ABC üçgeninde,
 $[BE]$, ABC
 açısının
 açıortayı, $[BD]$,
 EBC açısının
 açıortayıdır.
 $IABI = 8$ birim,
 $IACI = 10$ birim
 ve
 $IBCI = 12$ birim ise, $IDCI = x$ kaç birimdir?



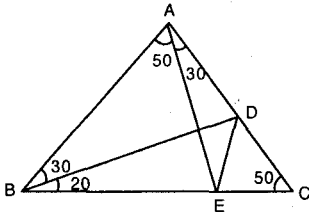
A) $6(2-\sqrt{2})$ B) $6(\sqrt{2}-1)$ C) $6-4\sqrt{2}$
 D) $3(\sqrt{2}-1)$ E) $3(2-\sqrt{2})$

14. ABC
 üçgeninde
 $[AB] \parallel [FD]$,
 $IFEI = IEDI$,
 $IABI = 2IFEI$ dir.
 Buna göre
 $\frac{IKEI}{IACI}$ oranı
 nedir?



A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{2}{3}$ D) $\frac{3}{4}$ E) $\frac{1}{6}$

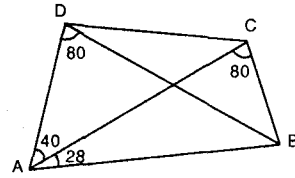
15.



ABC de $m(\widehat{BAE}) = m(\widehat{ACB}) = 50^\circ$,
 $m(\widehat{ABD}) = m(\widehat{EAC}) = 30^\circ$ ve $m(\widehat{DBC}) = 20^\circ$ ise
 $m(\widehat{BDE})$ kaç derecedir?

A) 20 B) 25 C) 30 D) 40 E) 50

16.



Şekilde $m(\widehat{ADB}) = m(\widehat{ACB}) = 80^\circ$, $m(\widehat{DAC}) = 40^\circ$
 ve $m(\widehat{BAE}) = 28^\circ$ ise $m(\widehat{ACD})$ kaç derecedir?

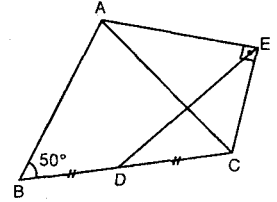
A) 28 B) 32 C) 36 D) 40 E) 44

17. $\triangle ABC$ de

$IABI = IACI$,
 $IBDI = IDCI$,
 $[EA] \perp [EC]$,
 $m(\widehat{B}) = 50^\circ$ ise

$m(\widehat{CED})$ kaç derecedir?

A) 40 B) 45 C) 50 D) 55 E) 60

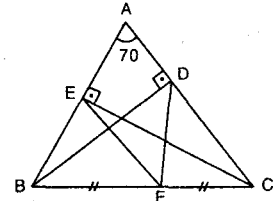


18. $\triangle ABC$ de $[CE] \perp [AB]$,
 $[BD] \perp [AC]$,
 $IBFI = IFCI$ ve
 $m(\widehat{BAC}) = 70^\circ$ ise

$m(\widehat{EFD})$ kaç de-

recedir?

A) 60 B) 55 C) 50 D) 45 E) 40

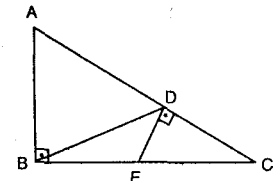


19. $\triangle ABC$ de

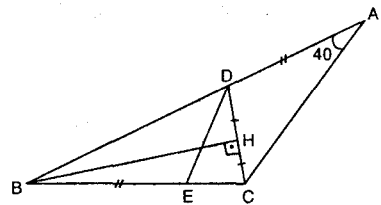
$[AB] \perp [BC]$,
 $[ED] \perp [AC]$
 ve $IABI = IBEI$

ise $m(\widehat{BDE})$ kaç de-

recedir?



20.



Şekilde $[BH] \perp [CD]$, $IBEI = IADI$, $IDHI = IHCI$,
 $IDEI = IDCI$ ve $m(\widehat{BAC}) = 40$ ise $m(\widehat{DEC})$ kaç de-

recedir?

A) 40 B) 50 C) 60 D) 70 E) 80

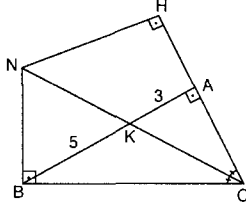
TARAMA - 2

1. Şekilde, [CN], C açısının açıortayıdır.

$m(\hat{BAC}) = 90^\circ$,
[NH] $\perp$ [HC],
[BA] $\perp$ [HC] ve
[NB] $\perp$ [BC] dir.

Buna göre, |AK| = 3 birim ve |BK| = 5 birim ise, $\frac{|CA|}{|AH|}$ oranı kaçtır?

- A) $\frac{3}{2}$ B) $\frac{5}{2}$ C) $\frac{1}{2}$ D) $\frac{2}{3}$ E) $\frac{2}{5}$

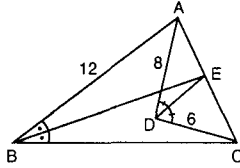


2. Şekilde [BE], B açısının açıortayı ve [DE] de

ADC nin açıortayıdır.

Buna göre,
|DC| = 6 cm,
|DA| = 8 cm ve
|AB| = 12 cm ise,
|BC| kaç cm dir?

- A) 9 B) 10 C) 12 D) 15 E) 18

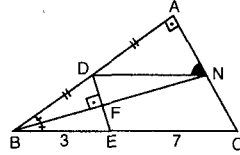


3. ABC üçgeninde,

$m(\hat{A}) = 90^\circ$,
[DE] $\perp$ [BN] açıortay,
|AD| = |DB| dir.
|BE| = 3 br ve
|CE| = 7 br ise,

$m(\hat{AND})$ kaç derecedir?

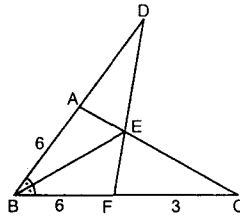
- A) 30 B) 35 C) 40 D) 45 E) 60



4. Şekilde [BE], B açısının açıortayıdır.

|AB| = |BF| = 6 cm ve
|FC| = 3 cm olduğuna
göre,
|AD| kaç cm dir?

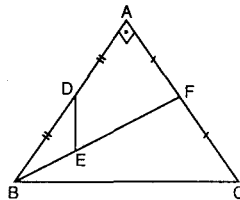
- A) 3 B) $\frac{5}{2}$ C) 2 D) $\frac{3}{2}$ E) 1



5. Şekilde, [BA] $\perp$ [AC],

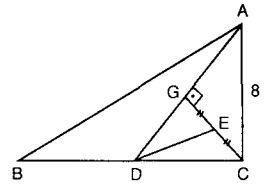
|AF| = |FC|,
|AD| = |DB|,
|FE| = 2|BE| ve
 $|AB|^2 + |AC|^2 = 144$ ol-
duğuna göre,
|DE| kaç cm dir?

- A) 1 B) 2 C) 3 D) 4 E) 5

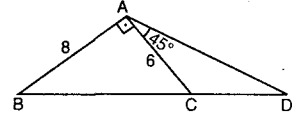


6. G noktası, ABC üçge-
ninin ağırlık merkezi,
[AG] $\perp$ [GC],
|GE| = |EC| ve
|AC| = 8 cm olduğuna
göre, |DE| kaç cm
dir?

- A) 3 B) $\frac{7}{2}$ C) 4 D) $\frac{9}{2}$ E) 5



- 7.

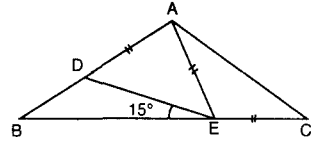


Şekilde, [AB] $\perp$ [AC], $m(\hat{CAD}) = 45^\circ$ dir.

|AB| = 8 cm ve |AC| = 6 cm olduğuna göre,
|CD| kaç cm dir?

- A) 10 B) 15 C) 20 D) 25 E) 30

- 8.



Şekildeki ABC üçgeninde, |AB| = |AC|,

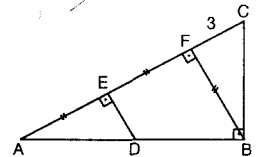
|AD| = |AE| = |EC|, $m(\hat{BED}) = 15^\circ$ ve |EC| = 2 cm
ise, |DE| kaç cm dir?

- A) 1 B) 2 C) $2\sqrt{2}$ D) $2\sqrt{3}$ E) 4

9. Şekilde,

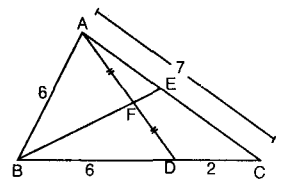
$m(\hat{B}) = 90^\circ$,
[BF] $\perp$ [AC],
[DE] $\perp$ [AC],
|AE| = |EF| = |BF| ve
|CF| = 3 cm ise,
|DE| kaç cm dir?

- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

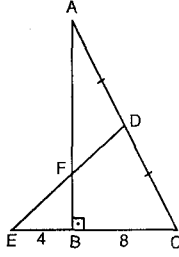


10. Şekildeki ABC üç-
geninde,
|AF| = |FD|,
|BD| = 6 cm,
|DC| = 2 cm ve
|AC| = 7 cm oldu-
ğuna göre,
|AE| kaç cm dir?

- A) 1 B) 2 C) 3 D) 4 E) 5

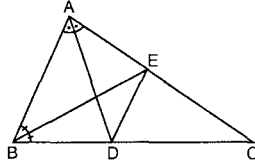


11. ABC bir dik üçgen ,
 $[AB] \perp [EC]$,
 $IAI = IDC$,
 $ABI = 12$ cm ,
 $BCI = 8$ cm ,
 $IEI = 4$ cm ise,
IEDI kaç cm'dir?



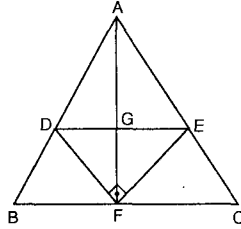
A) 10 B) 12 C) 13 D) 15 E) 17

12. Şekilde,
 $IAI = IBC$,
 $[BE]$ ve $[AD]$ açıortay-
 lar
 $IAI = 5$ birim ,
 $ABI = 3$ birim ise
IDEI kaç birimdir?



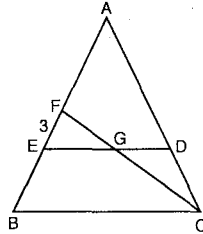
A) $\frac{6}{5}$ B) $\frac{15}{8}$ C) 1 D) $\sqrt{2}$ E) $\sqrt{3}$

13. Şekilde,
 $[DF] \perp [FE]$,
 $[DE] \parallel [CB]$,
 G ağırlık merkezi ise,
 $\frac{IAI}{IBC}$ oranı kaçtır?



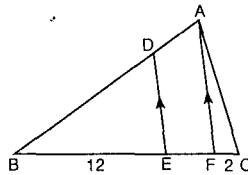
A) $\frac{1}{3}$ B) $\frac{1}{2}$ C) 1 D) $\frac{3}{2}$ E) 2

14. Şekilde G ağırlık merkezi,
 $[DE] \parallel [BC]$,
 $IEI = 3$ cm olduğuna göre,
IAI kaç cm'dir?



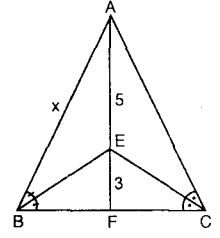
A) 9 B) 12 C) 16 D) 18 E) 20

15. Şekilde,
 $[DE] \parallel [AF]$,
 $IBEI = 12$ cm ,
 $IFCI = 2$ cm ve
 $\Delta A(BDE) = \Delta A(DEC)$
 ise, **IEFI kaç cm'dir?**



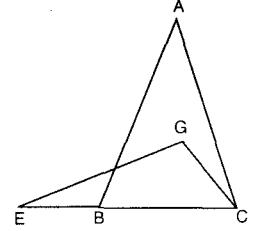
A) 2 B) $2\sqrt{3}$ C) 6 D) $4\sqrt{3}$ E) 4

16. ABC ikizkenar üçgeninde,
 $[BE]$ ve $[CE]$ açıortaylardır.
 $IAEI = 5$ cm ,
 $IEFI = 3$ cm ise,
**IAI = IAI = x kaç cm'-
 dir?**



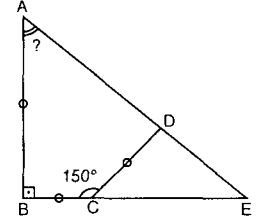
A) 6 B) 7 C) 8 D) 10 E) 15

17. Şekilde
 $IAI = IAI$
 $IGCI = IBEI$ ve G, ABC
 üçgeninin ağırlık
 merkezidir.
 $m(\angle GCE) = 132^\circ$ ise
**ECG açısının ölçüsü
 kaç derecedir?**



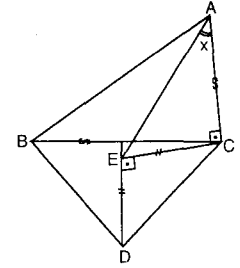
A) 24 B) 30 C) 32 D) 36 E) 40

18. ABE üçgeninde,
 $[AB] \perp [BE]$,
 $IAI = IBCI = IDC$,
 $m(\angle BCD) = 150^\circ$ oldu-
 ğun göre,
 $m(\angle A)$ kaç dercedir?



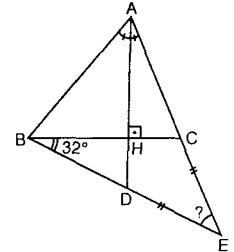
A) 75 B) 60 C) 45 D) 30 E) 15

19. Şekilde,
 BCD eşkenar üçgendir.
 $IAI = IBCI$,
 $IECI = IEDI$,
 $[AC] \perp [CB]$,
 $[EC] \perp [ED]$ dir.
Buna göre,
 **$m(\angle EAC) = x$ kaç dere-
 cedir?**



A) 10 B) 15 C) 20 D) 25 E) 30

20. Şekilde,
 $[AH] \perp [BC]$,
 $m(\angle BAH) = m(\angle CAH)$,
 $m(\angle CBE) = 32^\circ$,
 $ICEI = IDEI$ olduğuna göre,
 $m(\angle DEC)$ kaç derecedir?



A) 30 B) 42 C) 50 D) 52 E) 60

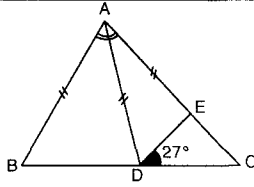
TARAMA - 3

1. Şekildeki ABC üçgeninde;

$$|AB| = |AD| = |AE|,$$

$$m(\widehat{EDC}) = 27^\circ \text{ ise}$$

$m(\widehat{BAC})$ kaç derecedir?



- A) 30 B) 35 C) 36 D) 45 E) 54

2. Şekildeki ABC

üçgeninde

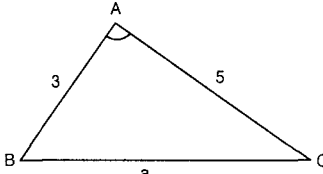
$$|AB| = 3 \text{ br}$$

$$|AC| = 5 \text{ br}$$

$$m(\widehat{A}) > 90^\circ$$

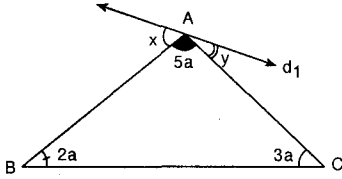
olduğuna göre

$|BC| = a$ 'nın tamsayı değeri aşağıdakilerden hangisi olabilir?



- A) 3 B) 4 C) 5 D) 6 E) 8

- 3.



ABC üçgeninde açılar sırayla $5a$, $2a$, $3a$ ve $32^\circ < x < 58^\circ$ ise y açısı için aşağıdakilerden hangisi doğrudur?

- A) $24^\circ < y < 32^\circ$ B) $32^\circ < y < 58^\circ$
C) $31^\circ < y < 57^\circ$ D) $34^\circ < y < 59^\circ$
E) $35^\circ < y < 60^\circ$

4. ABC dik üçgeninde;

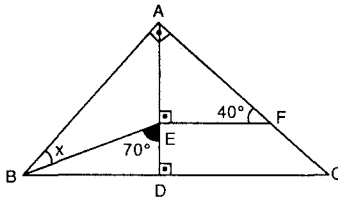
$$m(\widehat{AFE}) = 40^\circ,$$

$$m(\widehat{BED}) = 70^\circ$$

$$AD \perp BC,$$

$$EF \perp AD \text{ ise}$$

$m(\widehat{ABE}) = x$ kaç derecedir?



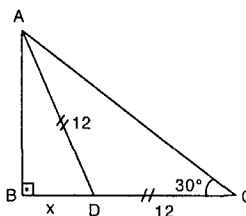
- A) 10 B) 15 C) 20 D) 25 E) 30

5. ABC dik üçgeninde

$$m(\widehat{BCA}) = 30^\circ$$

$$|DC| = |AD| = 12 \text{ ise}$$

$|BD| = x$ kaç birimdir?



- A) 3 B) 4 C) 6 D) 8 E) 10

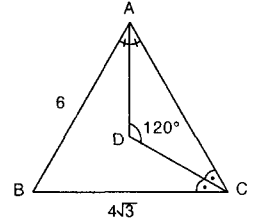
6. Şekilde, [DA ve [DC açıortaylar,

$$m(\widehat{ADC}) = 120^\circ$$

$$|AB| = 6 \text{ cm},$$

$$|BC| = 4\sqrt{3} \text{ cm ise}$$

$\Delta A(ABC)$ kaç cm^2 'dir?



- A) 14 B) 18 C) 20 D) 26 E) 28

7. Şekildeki MKL

üçgeninde,

$$[MK] \perp [KL],$$

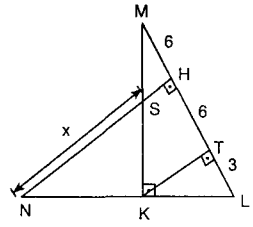
$$[KT] \perp [ML] \text{ ve}$$

$$[NH] \perp [ML] \text{ dir.}$$

$$|ITLI| = 3 \text{ cm ve}$$

$$|IMHI| = |IHTI| = 6 \text{ cm}$$

olduğuna göre $|INSI| = x$ kaç cm 'dir?



- A) 18 B) 16 C) 15 D) 12 E) 9

8. Şekilde,

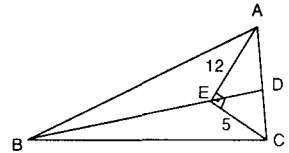
$$[AE] \perp [EC]$$

$$|BE| = 2|ED|,$$

$$|AE| = 12 \text{ cm ve}$$

$$|EC| = 5 \text{ cm ise}$$

$\Delta A(ABC)$ kaç cm^2 'dir?



- A) 30 B) 45 C) 60 D) 75 E) 90

9. ABC üçgeninde

[CN] açıortaydır.

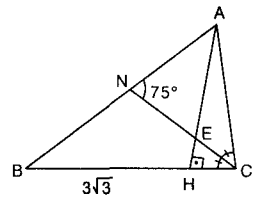
$$[AH] \perp [BC],$$

$$|AE| = 2|EH|$$

$$m(\widehat{ANC}) = 75^\circ \text{ ve}$$

$$|BH| = 3\sqrt{3} \text{ cm ise}$$

$|CN|$ kaç cm 'dir?



- A) 3 B) 5 C) 6 D) 8 E) $6\sqrt{3}$

10. ABC dik üçgeninde,

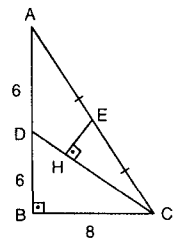
$$|AE| = |EC|$$

$$[EH] \perp [DC],$$

$$|AD| = |DB| = 6 \text{ cm},$$

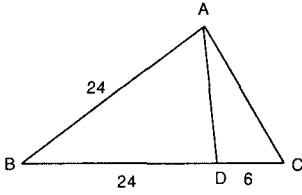
$$|BC| = 8 \text{ cm ise}$$

$|EH|$ kaç cm 'dir?



- A) 2 B) 2,4 C) 3 D) 3,6 E) 4,8

11.



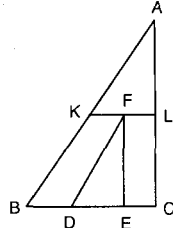
Şekilde, $m(\hat{ABC}) = 2m(\hat{DAC})$, $IDCI = 6$ cm ve

$IABI = IBDI = 24$ cm ise $\Delta(ABC)$ kaç cm^2 'dir?

- A) 178 B) 196 C) 216 D) 248 E) 272

12.

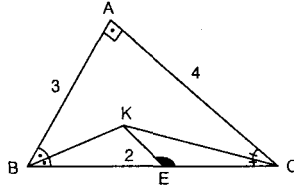
Şekilde,
 $IABI = 10$ cm,
 $IACI = 8$ cm,
 $IBCI = 6$ cm,
 $[KL] \parallel [BC]$,
 $[FD] \parallel [AB]$,
 $[FE] \parallel [AC]$ ve F noktası
 içteğet çemberin merkezidir.



Buna göre, $\frac{A(AKL)}{A(DEF)}$ oranı
 nedir?

- A) 16 B) 9 C) 6 D) 4 E) 3

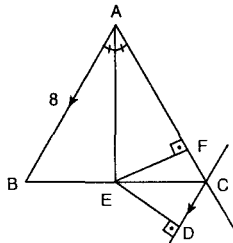
13. ABC dik
 üçgeninde
 $[BK]$ ve $[CK]$
 açıortaylardır.
 $IKEI = 2$ cm,
 $IABI = 3$ cm,
 $IACI = 4$ cm ise



$m(\hat{KEC})$ kaç de-
 recedir?

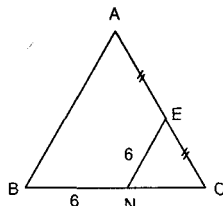
- A) 110 B) 120 C) 130 D) 140 E) 150

14. ABC üçgeninde,
 $[AE]$ açıortaydır.
 $[CD] \parallel [AB]$,
 $[EF] \perp [AC]$,
 $[ED] \perp [CD]$,
 $IABI = 8$ cm,
 $IEFI + IEDI = 6$ cm
 ise $\Delta(ABC)$ üçgeninin
 alanı kaç cm^2 'dir?



- A) 16 B) 18 C) 20 D) 24 E) 32

15. ABC üçgeninde,
 $IAEI = IECI$,
 $IBNI = IENI = 6$ br ve
 $IABI = IBCI$ ise
 $IABI$ kaç birimdir?

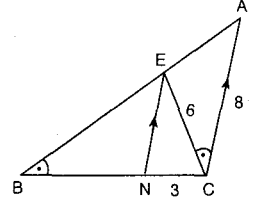


- A) 12 B) 10 C) 9 D) 8 E) 7

16. ABC üçgeninde,
 $[EN] \parallel [AC]$,

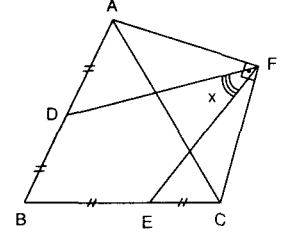
$m(\hat{ABC}) = m(\hat{ACE})$
 $IACI = 8$ cm,
 $INCI = 3$ cm,
 $IECI = 6$ cm ise $IIBEI$
 kaç cm'dir?

- A) 16 B) 12 C) 10 D) 9 E) 8



17. Şekilde ABC
 eşkenar üçgen
 $[AF] \perp [FC]$
 $IADI = IDBI$ ve
 $IIBEI = IECI$ olduğuna

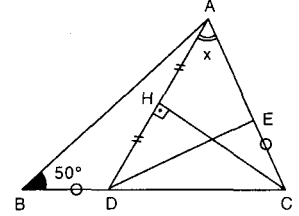
göre $m(\hat{EFD}) = x$
 kaç derecedir?



- A) 15 B) 30 C) 45 D) 60 E) 75

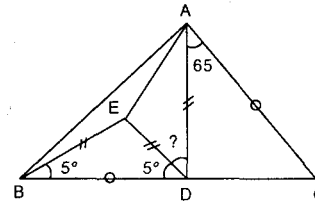
18. ABC üçgeninde
 $IECI = IDBI$,
 $IDEI = IADI$,
 $IACI = IBCI$ ve
 $m(\hat{ABC}) = 50^\circ$

ise $m(\hat{DAC}) = x$
 kaç derecedir?



- A) 30 B) 45 C) 65 D) 75 E) 80

19.

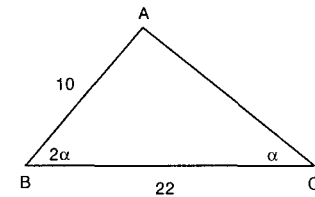


ABC üçgeninde $IADI = IBEI = IEDI$, $IDBI = IACI$
 $m(\hat{DAC}) = 65^\circ$, $m(\hat{EDB}) = m(\hat{EDB}) = 5^\circ$ olduğuna

göre $m(\hat{EDA})$ kaç derecedir?

- A) 90 B) 80 C) 70 D) 60 E) 50

20.



ABC üçgeninde B açısı dar açı olup

$m(\hat{ABC}) = 2m(\hat{ACB})$ dir. $IABI = 10$ birim ve

$IBCI = 22$ birim ise $\Delta(ABC)$ kaç birimkaredir?

- A) 60 B) 66 C) 72 D) 80 E) 88

TARAMA - 4

1. ABC üçgeninde;

$$m(\hat{A}) > 90^\circ,$$

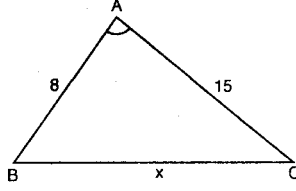
$$|AB| = 8,$$

$$|AC| = 15,$$

$$|BC| = x \text{ dir.}$$

Bu koşulu sağ-

layan kaç farklı x tamsayı değeri vardır?



- A) 2 B) 3 C) 4 D) 5 E) 6

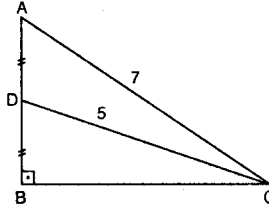
2. ABC dik üçgeninde,

$$|AD| = |DB|,$$

$$|DC| = 5 \text{ cm},$$

$$|AC| = 7 \text{ cm ise,}$$

$|AB|$ kaç cm dir?



- A) 6 B) 5 C) $2\sqrt{2}$ D) $3\sqrt{2}$ E) $4\sqrt{2}$

3. ABC üçgeninde;

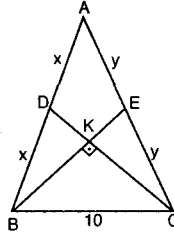
$$[BE] \perp [CD],$$

$$|AD| = |DB| = x,$$

$$|AE| = |EC| = y$$

$$|BC| = 10 \text{ birim ise,}$$

$x^2 + y^2$ toplamı kaçtır?



- A) 60 B) 75 C) 80 D) 100 E) 125

4. ABC üçgeninde [BN]

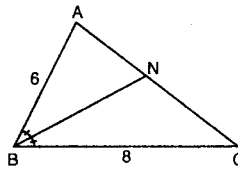
açıortay,

$$|AB| = 6 \text{ br},$$

$$|BC| = 8 \text{ br},$$

$$\text{Alan}(\triangle NBC) = 12 \text{ br}^2$$

ise, $\text{Alan}(\triangle ABN)$ kaç br^2 dir?



- A) 7 B) 9 C) 10 D) 11 E) 12

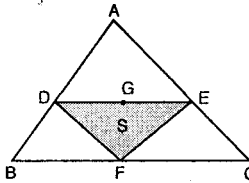
5. ABC üçgeninde G

ağırlık merkezi,

$$[DE] \parallel [BC] \text{ dir.}$$

Taralı alan S ise,

$\text{Alan}(\triangle ABC)$ kaç S dir?



- A) $\frac{5}{2}$ B) $\frac{7}{2}$ C) $\frac{9}{2}$ D) $\frac{11}{2}$ E) $\frac{15}{2}$

6. Şekilde,

$$m(\hat{BAC}) = 90^\circ,$$

$$m(\hat{AHB}) = 90^\circ,$$

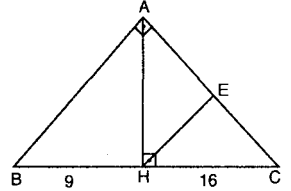
$$[HE] \parallel [AB],$$

$$|BH| = 9 \text{ cm},$$

$$|HC| = 16 \text{ cm ise}$$

$|AE|$ kaç cm dir?

- A) 4,8 B) 5,6 C) 7,2 D) 8 E) 9



7. ABC eşkenar üçge-

$$\text{ninde,}$$

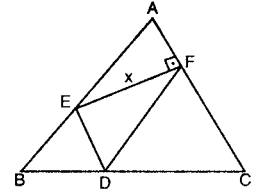
$$|BC| = 6 \text{ cm},$$

$$[EF] \perp [AC] \text{ dir.}$$

AEDF paralelkenar ol-

duğuna göre,

$|EF| = x$ kaç cm dir?



- A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $3\sqrt{3}$
D) $4\sqrt{3}$ E) $6\sqrt{3}$

8. Şekilde,

$$[AH] \perp [BC],$$

$$|BC| = 24 \text{ cm},$$

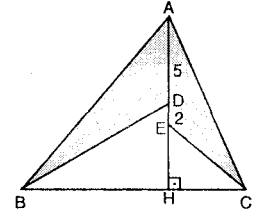
$$|AD| = 5 \text{ cm},$$

$$|DE| = 2 \text{ cm},$$

$$A(\triangle ABD) = A(\triangle AEC) \text{ ise,}$$

taralı alanlar toplamı kaç cm^2 dr?

- A) 40 B) 45 C) 55 D) 60 E) 70



9. Şekilde,

ABCD kare

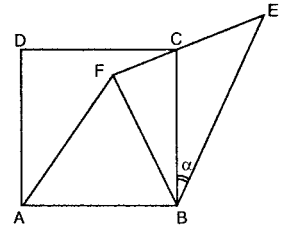
ABF eşkenar üçgen

$|EF| = |EB|$ oldu-

ğuna göre,

$m(\hat{CBE}) = \alpha$ kaç

derecedir?



- A) 25 B) 30 C) 35 D) 40 E) 45

10. Şekilde,

$$|AB| = |AC|,$$

$$|BE| = |HC|,$$

$$|BH| = |CD|$$

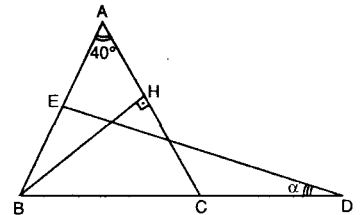
ve

$$m(\hat{A}) = 40^\circ$$

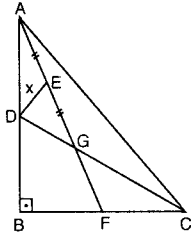
olduğuna

göre, $m(\hat{D}) = \alpha$ kaç derecedir?

- A) 10 B) 15 C) 20 D) 25 E) 30



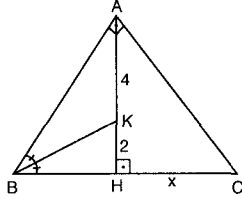
11. ABC dik üçgeninde,
G ağırlık merkezidir.
 $IAEI = IEGI$ ve
 $IACI = 12$ cm ise,
 $IDEI = x$ kaç cm dir?



- A) 1 B) 2 C) 3 D) $\frac{7}{2}$ E) 4

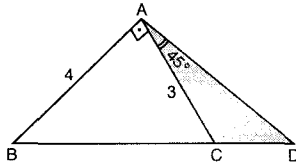
12. Şekildeki ABC üçgeninde,

$m(\hat{A}) = 90^\circ$,
[AH] $\perp$ [BC],
[BK] açıortay
 $IAKI = 4$ cm
 $IKHI = 2$ cm ise,
 $IHCI = x$ kaç cm dir?



- A) $9\sqrt{3}$ B) $8\sqrt{3}$ C) $6\sqrt{3}$
D) $4\sqrt{3}$ E) $3\sqrt{3}$

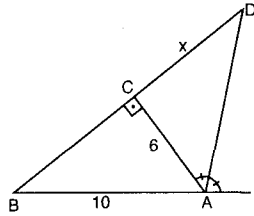
13. Şekilde,
[AB] $\perp$ [AC],
 $m(\hat{CAD}) = 45^\circ$,
 $IABI = 4$ cm,
 $IACI = 3$ cm



Buna göre $\Delta A(ACD)$ kaç cm^2 dir?

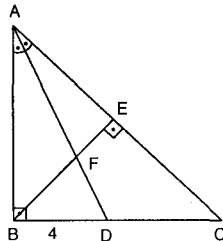
- A) 6 B) 12 C) 16 D) 18 E) 24

14. Şekilde
[AD] dış açıortay,
[AC] $\perp$ [BD],
 $ICAI = 6$ cm,
 $IBAI = 10$ cm ise,
 $ICDI = x$ kaç cm dir?



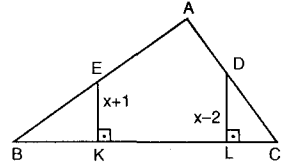
- A) 12 B) 14 C) 16 D) 18 E) 24

15. Şekildeki ABC üçgeninde
[AB] $\perp$ [BC],
[BE] $\perp$ [AC] ve
[AD] açıortay ve
 $IBDI = 4$ cm ise
 $IBFI$ kaç cm dir?



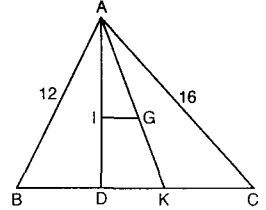
- A) 2 B) 4 C) 5 D) 6 E) 8

16. Şekilde,
[EK] $\perp$ [BC],
[DL] $\perp$ [BC],
 $IADI = IDCI$
 $IEKI = (x+1)$ br
 $IDLI = (x-2)$ br
 $\frac{IAEI}{IBEI} = \frac{1}{2}$ olduğuna göre, x kaçtır?



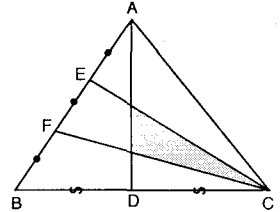
- A) $\frac{25}{2}$ B) 12 C) $\frac{23}{2}$ D) 11 E) $\frac{21}{2}$

17. ΔABC 'de I içaçıortayların kesim noktası,
G kenarortayların kesim noktası,
 $IABI = 12$,
 $IACI = 16$,
 $IBCI = 14$ ise,
 $IIGI$ nedir?



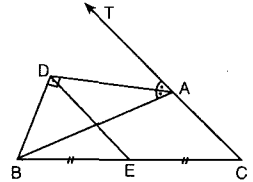
- A) $\frac{3}{4}$ B) $\frac{5}{8}$ C) $\frac{1}{3}$ D) $\frac{2}{3}$ E) $\frac{3}{5}$

18. ΔABC 'de
 $IAEI = IEFI = IFBI$,
 $IBDI = IDCI$ ve
taralı alan $9 br^2$ ise,
 $\Delta A(ABC)$ kaç birim-karedir?



- A) 90 B) 75 C) 60 D) 45 E) 30

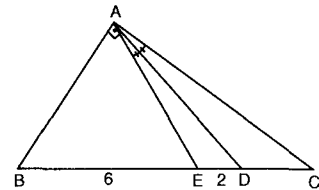
19. Şekilde,
[BD] $\perp$ [DA],
 $IBEI = IECI$,
 $m(\hat{BAD}) = m(\hat{D\hat{A}T})$
 $IABI = 8$ birim,
 $IACI = 6$ birim ise,
 $IDEI$ kaç birimdir?



- A) 5 B) 6 C) 7 D) 8 E) 10

20.

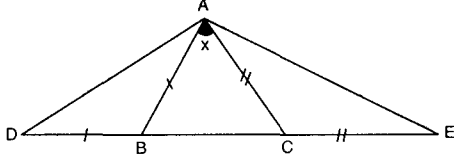
- ΔABC 'de [AB] $\perp$ [AD], $m(\hat{EAD}) = m(\hat{DAC})$,
 $IBEI = 6$ br ve $IEDI = 2$ br ise, $\frac{A(ACD)}{A(ADE)}$ oranı nedir?



- A) 1 B) 2 C) 3 D) 4 E) 5

TARAMA - 5

1.



Şekilde; $AB = IB$, $AC = IC$ ve

$m(\widehat{DAE}) = 140^\circ$ ise, $m(\widehat{BAC}) = x$ kaç derecedir?

A) 60 B) 70 C) 80 D) 90 E) 100

2. $[BA] \perp [CA]$

$m(\widehat{BDC}) = 105^\circ$,

$m(\widehat{BCD}) = 15^\circ$ dir.

Yukarıda verilenlere göre,

$\frac{IDAI}{IDBI}$ oranı nedir?

A) $\sqrt{3}-1$ B) $\sqrt{3}+1$

C) 1

D) $\frac{\sqrt{3}}{2}$ E) $\sqrt{3}$

3.

Şekilde; $[AD]$, EAC açısının açıortayıdır.

$AB = 7$ cm,

$AC = 5$ cm,

$BC = 3$ cm ise,

$CD = x$ kaç cm'dir?

A) 5 B) 6

C) 6,5

D) 7

E) 7,5

4.

ABC dik üçgeninde

$m(\widehat{A}) = m(\widehat{G}) = 90^\circ$,

$BD = DC$ ve

G noktası ağırlık merkezidir.

$AG = 4$ cm olduğuna göre

AC kaç cm'dir?

A) 4 B) $4\sqrt{3}$ C) $4\sqrt{2}$ D) $5\sqrt{2}$ E) $6\sqrt{3}$

5.

Şekilde

$[EH] \perp [AB]$,

$HD = HB = 4$ cm,

$DF = 2$ cm

olduğuna göre

BF kaç cm'dir?

A) $4\sqrt{2}$ B) $4\sqrt{3}$

C) 6

D) $6\sqrt{2}$ E) $6\sqrt{3}$

6.

Şekilde

$[BA] \perp [AC]$,

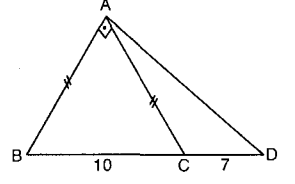
$AB = AC$,

$BC = 10$ cm ve

$CD = 7$ cm ise

AD kaç cm'dir?

A) 10 B) 11 C) 12 D) 13 E) 15



7.

ABC üçgeninde

$m(\widehat{ACD}) = m(\widehat{DCB})$,

$BE = ED$,

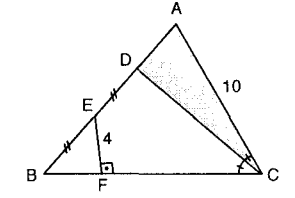
$[EF] \perp [BC]$,

$EF = 4$ cm,

$AC = 10$ cm ise Alan

$\triangle ADC$ kaç cm^2 dir?

A) 20 B) 30 C) 40 D) 60 E) 80



8.

ABC üçgeninde

$[BD]$ açıortay,

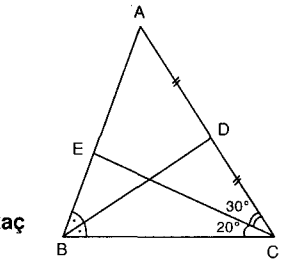
$AD = DC$,

$m(\widehat{ACE}) = 20^\circ$,

$m(\widehat{BCE}) = 30^\circ$ ise

Buna göre $m(\widehat{BEC})$ kaç derecedir?

A) 50 B) 60 C) 70 D) 80 E) 90



9.

Şekilde

$[AB] \perp [DF]$,

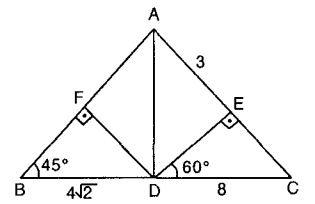
$[ED] \perp [AC]$,

$m(\widehat{ABC}) = 45^\circ$,

$m(\widehat{EDC}) = 60^\circ$,

$BD = 4\sqrt{2}$ br,

$DC = 8$ br ve $AE = 3$ br ise AF kaç birimdir?

A) 2 B) 3 C) $3\sqrt{2}$ D) 4 E) $4\sqrt{2}$ 

10.

ABC üçgeninde

$BE = EC$,

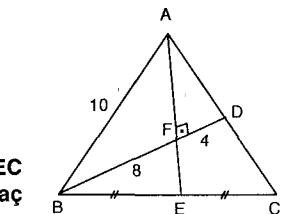
$AB = 10$ br,

$BF = 8$ br,

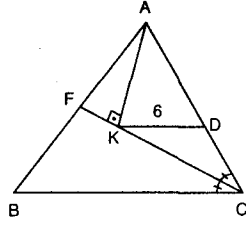
$FD = 4$ br ve

$[AE] \perp [BD]$ ise DFEC dörtgeninin alanı kaç br^2 dir?

A) 24 B) 20 C) 18 D) 16 E) 12

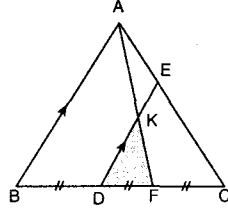


11. ABC üçgeninde
[CF] açıortay,
[AK] $\perp$ [CF] ve
[KD] $\parallel$ [BC] dir.
IKDI = 6 birim ise
IACI kaç birimdir?



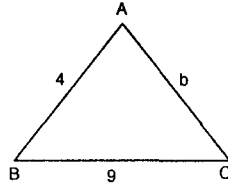
A) 3 B) 6 C) 9 D) 12 E) 18

12. ABC üçgeninde
IBDI = IDFI = IFCI,
[AB] $\parallel$ [DE] ve
 Δ
A(KDF) = 8 cm² ise
 Δ
A(ABC) kaç cm²dir?



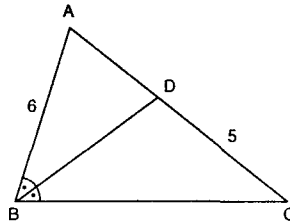
A) 24 B) 30 C) 36 D) 40 E) 48

13. Şekilde
IABI = 4 br,
IBCI = 9 br ve
 $m(\hat{C}) < m(\hat{B}) < m(\hat{A})$
ise IACI = b'nin alabi-
leceği tamsayı
değerleri toplamı kaçtır?



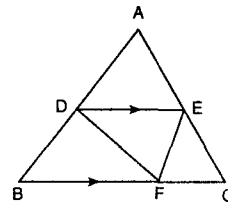
A) 15 B) 18 C) 21 D) 24 E) 27

14. ABC üçgeninde
[BD] açıortay,
IABI = 6 br,
IDCI = 5 br ve
 $m(\hat{A}) = 2 \cdot m(\hat{C})$
ise ABC
üçgeninin
çevresi kaç birimdir?



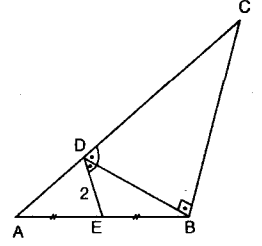
A) 20 B) 22,5 C) 25 D) 27,5 E) 30

15. Şekilde
[DE] $\parallel$ [BC],
 Δ
A(ADE) = 2 br²,
 Δ
A(DEF) = 8 br² ise
 Δ
A(ABC) kaç br²dir?



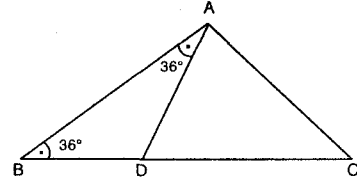
A) 25 B) 30 C) 40 D) 50 E) 60

16. Şekilde
[BD] $\perp$ [BC],
 $m(\hat{EDB}) = m(\hat{BDC})$,
IAEI = IEBI,
IDEI = 2 cm
ise IDCI = x kaç birim-
dir?



A) 3 B) 4 C) 6 D) 8 E) 10

17.

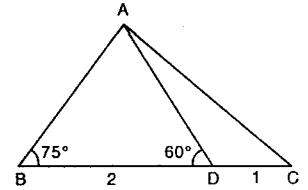


- Δ
ABC de IABI = IDCI ve $m(\hat{ABD}) = m(\hat{BAD}) = 36^\circ$
ise $m(\hat{ACB})$ kaç derecedir?

A) 24 B) 30 C) 36 D) 40 E) 45

18.

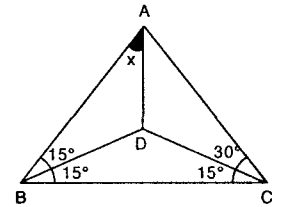
- Şekilde verilenlere
göre $m(\hat{ACD})$ kaç
derecedir?



A) 30 B) 35 C) 40 D) 45 E) 50

19.

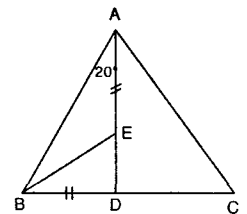
- Şekilde verilenlere
göre $m(\hat{BAD}) = x$
kaç derecedir?



A) 30 B) 40 C) 45 D) 60 E) 75

20.

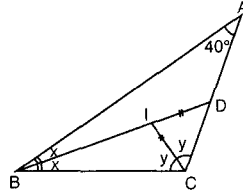
- Δ
ABC eşkenar üçgeninde
 $m(\hat{BAD}) = 20^\circ$ ve
IAEI = IBDI ise $m(\hat{BED})$
kaç derecedir?



A) 15 B) 20 C) 25 D) 30 E) 40

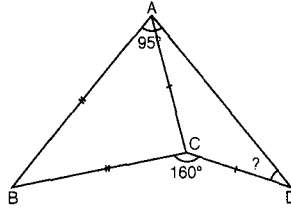
TARAMA - 6

1. Şekildeki üçgende;
[BI] ve [CI] açıortaydır,
 $IBI = ICI$ ve
 $m(\hat{BAC}) = 40^\circ$ ise,
x kaç derecedir?



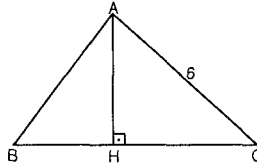
A) 10 B) 15 C) 20 D) 25 E) 30

2. $IAB = IBC$,
 $IAC = ICD$,
 $m(\hat{BCD}) = 160^\circ$,
 $m(\hat{BAD}) = 95^\circ$ ise,
 $m(\hat{ADC})$ kaç derecedir?



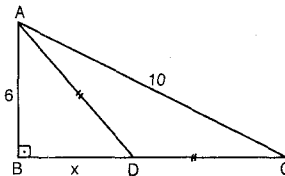
A) 45 B) 40 C) 35 D) 30 E) 25

3. ABC üçgeninde,
 $m(\hat{HAC}) = 2 \cdot m(\hat{ABC})$,
 $m(\hat{HAB}) = 2 \cdot m(\hat{ACB})$,
 $IAC = 6$ cm ise,
IBC kaç cm dir?



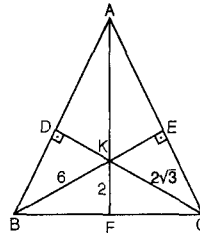
A) 5 B) 6 C) $4\sqrt{3}$ D) $6\sqrt{3}$ E) $6\sqrt{2}$

4. $AB \perp BC$,
 $IAD = IDC$,
 $IAC = 10$ birim,
 $IAB = 6$ birim,
**Yukarıda verilenlere göre,
 $IBDI = x$ kaç birimdir?**



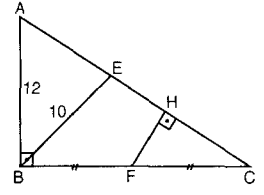
A) $\frac{7}{2}$ B) $\frac{7}{4}$ C) $\frac{5}{2}$ D) 3 E) 2

5. ABC üçgeninde,
[DC] ve [BE] yükseklikleri K noktasında kesismektedir.
 $IBKI = 6$ cm,
 $IKCI = 2\sqrt{3}$ cm,
 $IKFI = 2$ cm ise,
IBC kaç cm dir?



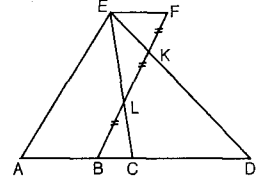
A) $4\sqrt{2}$ B) $5\sqrt{2}$ C) $6\sqrt{2}$
D) 7 E) 8

6. ABC dik üçgeninde,
 $[AB] \perp [BC]$,
 $[FH] \perp [AC]$,
 $IBFI = IFCI$,
 $IAEI = IECI$,
 $IBEI = 10$ cm ve
 $IABI = 12$ cm ise,
IFHI = x kaç cm dir?



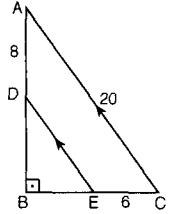
A) 3 B) 3,2 C) 3,6 D) 4,8 E) 5

7. ABFE paralelkenar A,
B, C, D doğrusaldır.
 $IFKI = IKLI = ILBI$,
 $IEFI = 6$ cm ise,
IADI kaç cm dir?



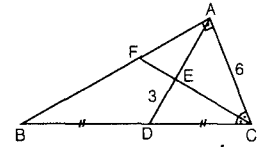
A) 9 B) 12 C) 15 D) 18 E) 24

8. ABC dik üçgeninde,
 $IADI = 8$ br,
 $IACI = 20$ br,
 $ICEI = 6$ br ve
[DE] // [AC] olduğuna göre,
 Δ Çevre(BDE) kaç cm dir?



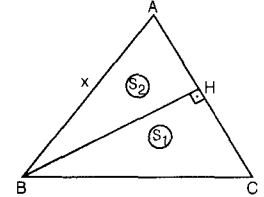
A) 20 B) 24 C) 30 D) 32 E) 48

9. ABC dik üçgeninde
[AD], kenarortay
[CF], açıortay
 $IACI = 6$ br
 $IEDI = 3$ br ise,
IABI kaç birimdir?



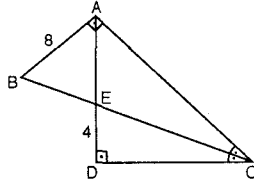
A) $6\sqrt{3}$ B) $4\sqrt{3}$ C) $3\sqrt{3}$
D) $2\sqrt{3}$ E) $\sqrt{3}$

10. Şekilde,
 $[BH] \perp [AC]$,
 $IBC = IACI$,
 $IBC = 5$ cm,
 $\frac{S_1}{S_2} = \frac{3}{2}$ ise,
IABI = x kaç cm'dir?



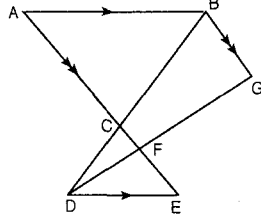
A) 4 B) $2\sqrt{5}$ C) $3\sqrt{5}$
D) $5\sqrt{2}$ E) $4\sqrt{5}$

11. Şekilde
[CB] açıortaydır.
[AD] $\perp$ [DC],
|AB| = 8 cm ve
|ED| = 4 cm ise,
|CE| kaç cm dir?



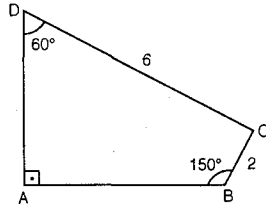
A) 6 B) 8 C) 10 D) 12 E) 16

12. Şekilde,
[AB] // [DE],
[AE] // [BG],
|AB| = 2|DE|
 Δ
A(CDF) = 2 br² ise,
A(BCFG) kaç br²
dir?



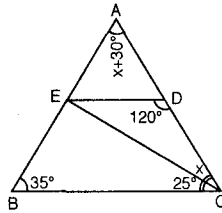
A) 12 B) 16 C) 20 D) 24 E) 36

13. Şekilde,
 $m(\hat{A}BC) = 150^\circ$,
 $m(\hat{A}DC) = 60^\circ$,
|DC| = 6 br,
|BC| = 2 br ise,
A(ABCD) kaç br²
dir?



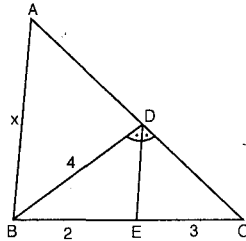
A) $3\sqrt{3}$ B) $4\sqrt{3}$ C) $5\sqrt{3}$
D) $6\sqrt{3}$ E) $7\sqrt{3}$

14. Şekilde,
 $m(\hat{A}BC) = 35^\circ$,
 $m(\hat{B}CE) = 25^\circ$,
 $m(\hat{E}DC) = 120^\circ$,
 $m(\hat{E}CD) = x^\circ$
 $m(\hat{B}AC) = x + 30^\circ$ ise,
 $m(\hat{D}EC)$ kaç derecedir?



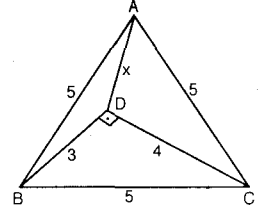
A) 5 B) 10 C) 15 D) 20 E) 25

15. ABC üçgeninde [DE],
 $\hat{B}DC$ 'nin açıortayı,
|AD| = |DC|
|BD| = 4 cm,
|BE| = 2 cm,
|EC| = 3 cm ise,
|AB| = x kaç cm dir?



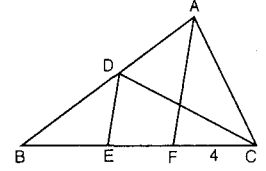
A) 10 B) 9 C) $\sqrt{79}$
D) 8 E) $\sqrt{65}$

16. ABC eşkenar üçgen,
[BD] $\perp$ [DC],
|AB| = 5 br,
|DC| = 4 br ve
|BD| = 3 br ise,
|AD| = x kaç br dir?



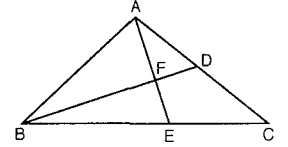
A) $\sqrt{15 - 4\sqrt{3}}$ B) $\sqrt{20 - 3\sqrt{6}}$
C) $\sqrt{25 - 12\sqrt{3}}$ D) $\sqrt{25 - 5\sqrt{6}}$
E) $\sqrt{48 - 8\sqrt{6}}$

17. Δ ABC'de
|CA| = |CD|,
|EB| = |ED|,
[DE] // [AF],
|AF| = 6 br ve
|FC| = 4 br ise,
|EF| kaç br dir?



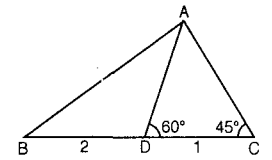
A) 5 B) 4 C) 3 D) 2 E) 1

18. Δ ABC'de,
2|AD| = 3|DC|,
 Δ
A(ABF) = A(DFEC)
ise
 $\frac{|BE|}{|EC|}$ oranı nedir?



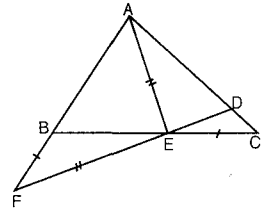
A) $\frac{1}{3}$ B) $\frac{1}{2}$ C) $\frac{2}{3}$ D) $\frac{3}{4}$ E) 1

19. Δ ABC'de
|BD| = 2|DC| = 2 br,
 $m(\hat{A}DC) = 60^\circ$ ve
 $m(\hat{A}CB) = 45^\circ$ ise,
 $m(\hat{A}BC)$ kaç derece-
dir?



A) 10 B) 15 C) 20 D) 30 E) 35

20. Şekilde,
|AB| = |BC|,
|EA| = |EF| ve
|BF| = |EC| ise,
 $m(\hat{A}CB)$ kaç derece-
dir?



A) 30 B) 45 C) 60 D) 75 E) 90

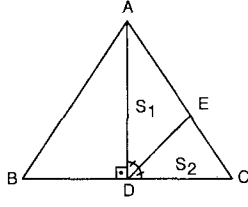
TARAMA - 7

1. Şekilde ABC eşkenar üçgen, $[AD] \perp [BC]$ ve $[DE]$ açkırtaydır.

Δ
Alan $(ADE) = S_1$ ve

Δ
Alan $(EDC) = S_2$

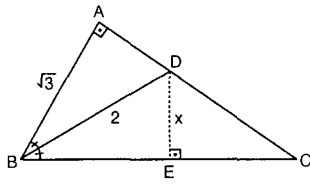
olduğuna göre $\frac{S_1}{S_2}$ oranı nedir?



- A) $\sqrt{3}$ B) 3 C) $\sqrt{2}$ D) 2 E) 3

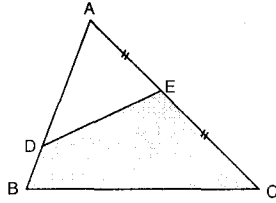
2. ABC dik üçgeninde $[BD]$ açkırtaydır. $[DE] \perp [BC]$

$|AB| = \sqrt{3}$ cm,
 $|BD| = 2$ cm ise
 $|DE| = x$ kaç cm'dir?



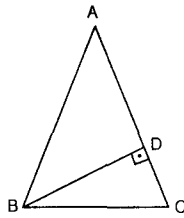
- A) 1 B) $\frac{1}{2}$ C) $\sqrt{2}$ D) $\frac{\sqrt{2}}{2}$ E) $\frac{\sqrt{3}}{2}$

3. Şekildeki ABC üçgeninde $|EA| = |EC|$, $|DB| = \frac{1}{3}$ ve taralı bölgenin alanı 20 cm^2 olduğuna göre ABC üçgeninin alanı kaç cm^2 'dir?



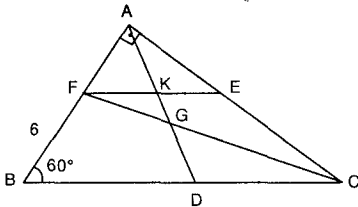
- A) 40 B) 38 C) 36 D) 34 E) 32

4. Şekilde, $|AB| = |AC| = 2|BC|$ dir. $|BC| = 4$ cm, ise $|CD|$ kaç cm'dir?



- A) 1 B) 1,5 C) 2 D) 2,5 E) 3

5.



ABC dik üçgeninde D, E, F kenarların orta noktalarıdır, $m(\angle B) = 60^\circ$ ve $|BF| = 6$ ise $|EF| + |KG|$ toplamı kaç birimdir?

- A) 18 B) 16 C) 15 D) 14 E) 12

6. Şekildeki ABC üçgeninde

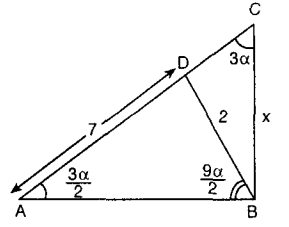
$$m(\hat{A}) = \frac{3\alpha}{2},$$

$$m(\hat{C}) = 3\alpha,$$

$$m(\hat{ABD}) = \frac{9\alpha}{2},$$

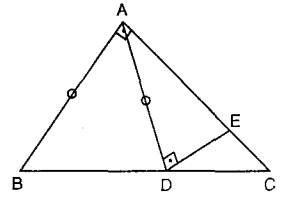
$|AD| = 7$ cm ve

$|BD| = 2$ cm ise $|BC| = x$ kaç cm'dir?



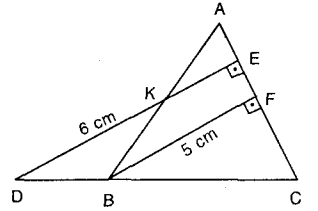
- A) 3 B) 4 C) 5 D) 6 E) 7

7. ABC üçgeninde $[AB] \perp [AC]$ $[AD] \perp [DE]$ ve $|AB| = |AD|$ ise $\frac{|DE|}{|EC|}$ oranı nedir?



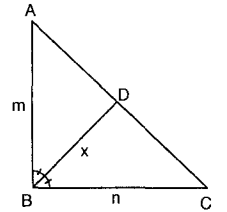
- A) $\frac{1}{2}$ B) 1 C) $\frac{2}{3}$ D) $\frac{3}{2}$ E) $\frac{4}{3}$

8. Şekilde $|BA| = |BC|$, $[DE] \perp [AC]$, $[BF] \perp [AC]$, $|DK| = 6$ cm ve $|BF| = 5$ cm ise $|KE|$ kaç cm'dir?



- A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

9. ABC üçgeninde $m(\hat{ABD}) = m(\hat{CBD}) = 45^\circ$, $|AB| = m$, $|BC| = n$ ve $\frac{1}{m} + \frac{1}{n} = \frac{1}{4}$ olduğuna göre $|BD| = x$ nedir?



- A) 4 B) 6 C) 8 D) $4\sqrt{2}$ E) $6\sqrt{2}$

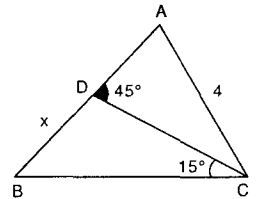
10. Şekildeki ABC üçgeninde $|BA| = |BC|$

$$m(\hat{ADC}) = 45^\circ$$

$$m(\hat{BCD}) = 15^\circ$$

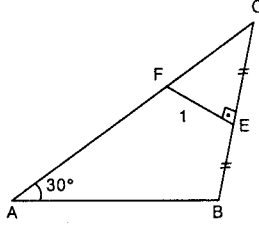
ve $|AC| = 4$ cm ise

$|BD| = x$ kaç cm'dir?



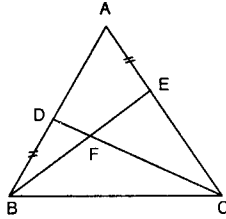
- A) $\sqrt{2}$ B) $\sqrt{3}$ C) $\sqrt{6}$ D) $2\sqrt{2}$ E) $2\sqrt{6}$

11. Şekilde
 $IABI = IBCI$,
 $ICEI = IBEI$,
 $m(\hat{E}) = 90^\circ$ ve
 $IEFI = 1$ cm
 olduğuna göre **IACI**
 kaç cm'dir?



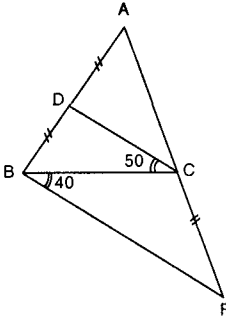
A) 2 B) 3 C) 4 D) 6 E) 9

12. Şekildeki
 ABC eşkenar üçgeninde
 $IAEI = IBDI$,
 $IBFI = 3$ birim,
 $IFCI = 5$ birim
 olduğuna göre **ABC**
 üçgeninin çevresi kaç
 birimdir?



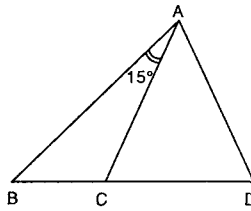
A) 12 B) 18 C) 21
 D) $24\sqrt{2}$ E) $24\sqrt{3}$

13. Şekilde
 $m(\hat{CBF}) = 40^\circ$,
 $m(\hat{BCD}) = 50^\circ$,
 $IABI = IACI = 4$ cm ve
 $IADI = IDBI = ICFI$ ise
 ΔABC kaç cm²'dir?



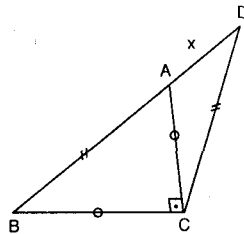
A) $2\sqrt{3}$ B) $4\sqrt{3}$ C) $6\sqrt{3}$
 D) $8\sqrt{3}$ E) $\sqrt{15}$

14. Şekilde ACD eşkenar
 üçgen $ICDI = 4$ cm
 $m(\hat{BAC}) = 15^\circ$ ise
 ΔABC kaç cm²'dir?



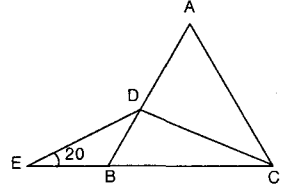
A) 4 B) $2(\sqrt{3}-1)$ C) $2\sqrt{3}-2$
 D) $2(3-\sqrt{3})$ E) $4\sqrt{3}$

15. Şekildeki DBC
 üçgeninde
 $[AC] \perp [BC]$,
 $IACI = IBCI$ ve
 $IABI = IDCI = 2$ birim
 ise **$IADI = x$** kaç bi-
 rimdir?



A) $\sqrt{3}$ B) 2 C) $\sqrt{3}-1$
 D) $2-\sqrt{3}$ E) $1+\sqrt{3}$

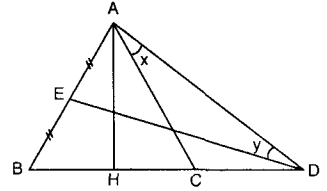
16. ΔABC eşkenar
 üçgen,
 $IEBI = IADI$ ve
 $m(\hat{E}) = 20^\circ$ ise



$m(\hat{ECD})$ kaç dere-
 cedir?

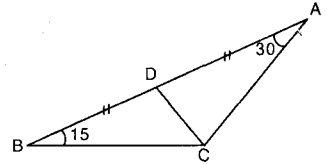
A) 10 B) 20 C) 30 D) 40 E) 45

17. ΔABC eşkenar,
 $[AH]$ yükseklik
 $IAEI = IEBI$,
 $IAHI = ICDI$
 $x + y$ kaç dere-
 cedir?



A) 30 B) 40 C) 45 D) 60 E) 75

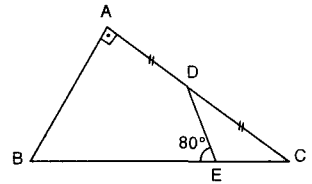
18. ΔABC de
 $m(\hat{BAC}) = 30^\circ$
 $m(\hat{ABC}) = 15^\circ$
 ve $IBDI = IDAI$



ise **$m(\hat{BCD})$** kaç derecedir?

A) 15 B) 20 C) 25 D) 30 E) 45

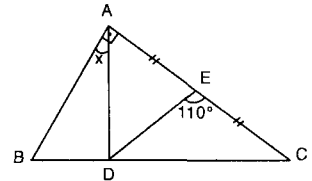
19. Şekilde
 $IADI = IDCI$,
 $IBEI = 3 \cdot IECI$,
 $m(\hat{A}) = 90^\circ$ ve
 $m(\hat{BED}) = 80^\circ$



$m(\hat{ABC})$ kaç derecedir?

A) 60 B) 50 C) 45 D) 40 E) 30

20. ΔABC de
 $[AB] \perp [AC]$,
 $IAEI = IECI$,
 $IBC I = 4 \cdot IBD I$ ve
 $m(\hat{DEC}) = 110^\circ$
 ise **$m(\hat{BAD})$** kaç derecedir?



A) 10 B) 20 C) 25 D) 30 E) 40

TARAMA - 8

1. Şekildeki ABC üçgeninde

$$m(\hat{C}) = 45^\circ \text{ ve}$$

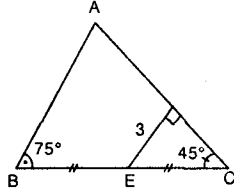
$$m(\hat{B}) = 75^\circ \text{ dir.}$$

$$[ED] \perp [AC],$$

$$IEDI = 3 \text{ br ve}$$

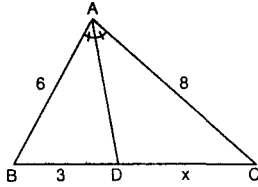
$$IEBI = IECl \text{ ise}$$

IABI kaç birimdir?



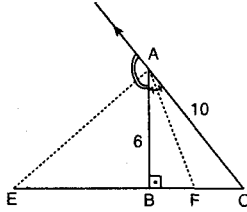
- A) 6 B) $6\sqrt{2}$ C) $4\sqrt{2}$ D) $4\sqrt{3}$ E) 9

2. ABC üçgeninde;
[AD] açıortaydır.
IABI = 6 cm,
IACI = 8 cm ve
IBDI = 3 cm ise,
IDCI = x kaç cm'dir?



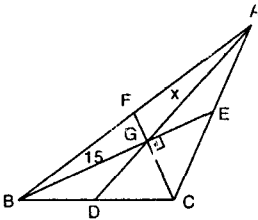
- A) 4 B) 5 C) 6 D) 7 E) 8

3. B açısı dik olan
şekildeki ABC dik
üçgeninde;
[AE] dış açıortay ve
[AF] iç açıortaydır.
IABI = 6 cm ve
IACI = 10 cm ise
IAEI kaç cm'dir?



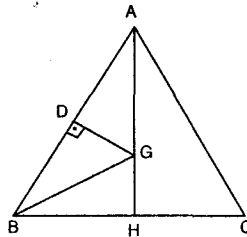
- A) $4\sqrt{3}$ B) $5\sqrt{3}$ C) $5\sqrt{2}$
D) $4\sqrt{5}$ E) $6\sqrt{5}$

4. ABC üçgeninde;
D, E, F kenarların
orta noktalarıdır.
[BE] $\perp$ [CF],
IBGI = 15 cm ve
ICGI = 8 cm ise,
**IAGI = x kaç cm'-
dir?**



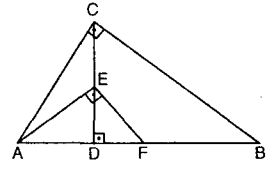
- A) $\frac{17}{2}$ B) $\frac{34}{3}$ C) 15 D) 16 E) 17

5. Şekildeki ABC
üçgeninde
G noktası ağırlık
merkezdur.
[GD] $\perp$ [AB],
IABI = IACI = 10 cm ve
 $IGHI = \frac{8}{3}$ cm ise
IGDI kaç cm'dir?



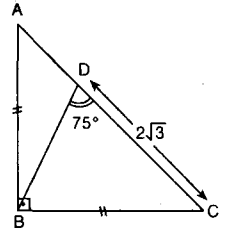
- A) 3 B) 3,2 C) 3,4 D) 3,6 E) 3,8

6. Şekildeki ABC ve
AEF dik üçgenleri
için [CD] $\perp$ [AB],
 $2IAFI = IFBI$ ve
 $IAEI = 2\sqrt{3}$ birim
olduğuna göre **IACI**
kaç birimdir?



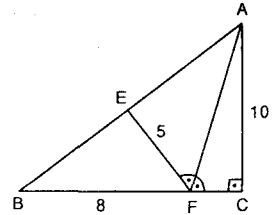
- A) 4 B) $4\sqrt{2}$ C) 6 D) $6\sqrt{2}$ E) 8

7. Şekildeki ABC
üçgeninde
IABI = IBCI,
[AB] $\perp$ [BC],
 $IDCI = 2\sqrt{3}$ birim
ise **IADI kaç birimdir?**



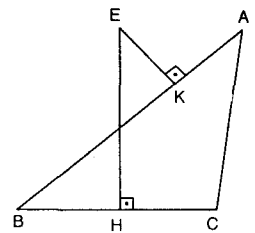
- A) $\sqrt{2}$ B) $\sqrt{3}$ C) 2 D) $\sqrt{6}$ E) $2\sqrt{3}$

8. Şekildeki ABC
üçgeninde
[AC] $\perp$ [BC],
IACI = 10 cm,
IEFI = 5 cm,
IBFI = 8 cm
ve [AF], CFE açısının
açıortayı ise **BEF**
üçgeninin alanı kaç cm²dir?



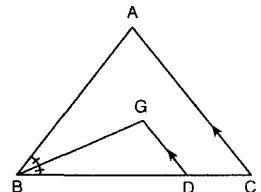
- A) 10 B) 15 C) 18 D) 20 E) 28

9. Şekilde E noktası ABC
üçgeninin çevrel
çemberinin merkezidir.
IHCI = 3 cm,
IEHI = 4 cm ve
IEKI = 1 cm olduğuna
göre **IABI kaç cm'dir?**



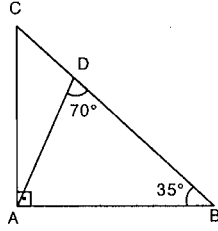
- A) $6\sqrt{2}$ B) $4\sqrt{5}$ C) $4\sqrt{6}$ D) 10 E) 12

10. ABC üçgeninde G,
ağırlık merkezidir.
[GD] $\parallel$ [AC],
 $m(\hat{ABG}) = m(\hat{DBG})$ ve
 $IDCI = 4$ cm ise
IABI kaç cm'dir?



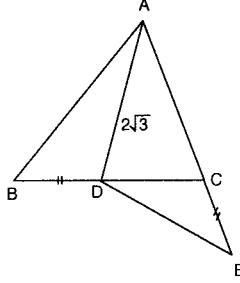
- A) 10 B) 12 C) 16 D) 18 E) 20

11. Şekildeki ABC üçgeninde
 $[AC] \perp [AB]$
 $m(\hat{B}) = 35^\circ$
 $m(\hat{ADB}) = 70^\circ$ dir.
 $IBC = 12$ cm ise
IADI kaç cm'dir?



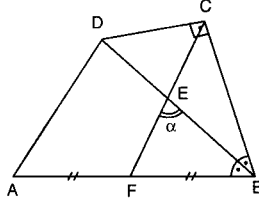
A) 4 B) 6 C) 8 D) 9 E) 10

12. Şekildeki ABC eşkenar üçgeninde
 $IBDI = ICEI$ ve
 $IADI = 2\sqrt{3}$ cm olduğuna göre **I DEI kaç cm'dir?**



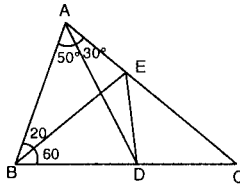
A) 2 B) 3 C) $\sqrt{3}$ D) 4 E) $2\sqrt{3}$

13. Şekildeki ABCD dörtgeninde
 $IAFI = IFBI$,
 $[CD] \perp [CB]$ ve
 $IDA = IDBI$,
 $[BD]$ açıortay
 ise **$m(\hat{FEB}) = \alpha$ kaç derecedir?**



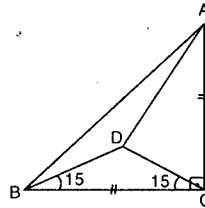
A) 90 B) 85 C) 80 D) 75 E) 60

14. Şekildeki ABC üçgeninde
 $m(\hat{BAD}) = 50^\circ$,
 $m(\hat{DAC}) = 30^\circ$,
 $m(\hat{ABE}) = 20^\circ$ ve
 $m(\hat{EBC}) = 60^\circ$ ise **$m(\hat{DEC})$ kaç derecedir?**



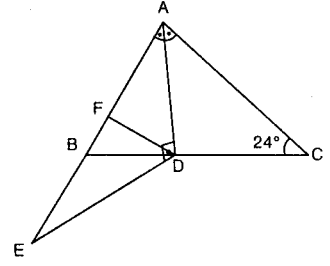
A) 30 B) 35 C) 40 D) 45 E) 50

15. ABC üçgeninde
 $[AC] \perp [CB]$,
 $IACI = IBCI$ ve
 $m(\hat{DBC}) = m(\hat{DCB}) = 15^\circ$
 ise **$m(\hat{DAC})$ kaç derecedir?**



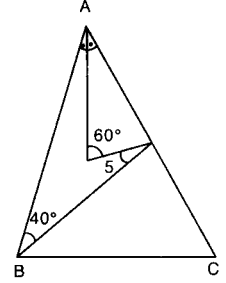
A) 15 B) 20 C) 30 D) 40 E) 50

16. ABC üçgeninde
 $[AD]$ açıortay,
 $[AD] \perp [DE]$,
 $IAFI = IFEI$, A, B, E noktaları doğrusal ve
 $m(\hat{ACB}) = 24^\circ$
 ise **$m(\hat{BDF})$ kaç derecedir?**



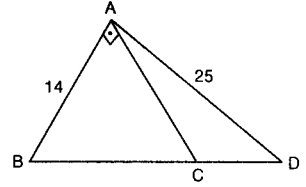
A) 12 B) 16 C) 20 D) 24 E) 36

17. ABC üçgeninde
 $[AE]$ açıortay,
 $IBC = IBDI$,
 $m(\hat{ABD}) = 40^\circ$,
 $m(\hat{AED}) = 60^\circ$ ve
 $m(\hat{BDE}) = 5^\circ$ ise **$m(\hat{CBD})$ kaç derecedir?**



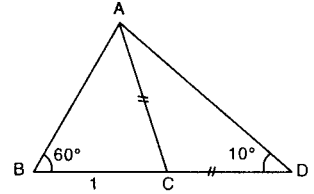
A) 30 B) 40 C) 50 D) 55 E) 60

18. ABD üçgeninde
 $[AB] \perp [AC]$,
 $IBC = 2ICDI$,
 $IABI = 14$ br ve
 $IADI = 25$ br ise
 $\Delta A(ACD)$ kaç br^2 dir?



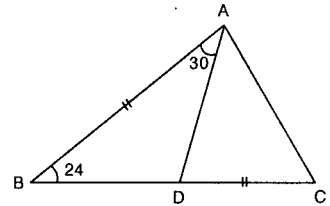
A) 28 B) 40 C) 50 D) 56 E) 84

19. ABD üçgeninde
 $m(\hat{ABD}) = 60^\circ$,
 $m(\hat{ADB}) = 10^\circ$,
 $IACI = ICDI$,
 ve $IBC = 1$ br ise **IADI kaç br'dir?**



A) 1 B) $\sqrt{3}$ C) 2 D) $2\sqrt{3}$ E) 3

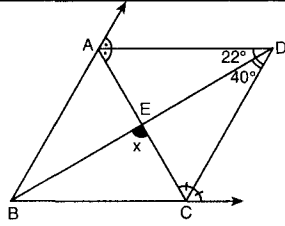
20. ABC üçgeninde
 $IABI = ICDI$,
 $m(\hat{ACB}) = 24^\circ$ ve
 $m(\hat{BAD}) = 30^\circ$
 ise **$m(\hat{ACB})$ kaç derecedir?**



A) 24 B) 30 C) 36 D) 48 E) 60

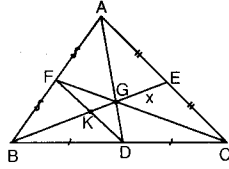
TARAMA - 9

1. ABC üçgeninde,
[AD] ve [CD] dış
açıortay,
 $m(\hat{A}) = 22^\circ$,
 $m(\hat{B}) = 40^\circ$ dir.
 $m(\hat{BEC}) = x$ kaç
derecedir?



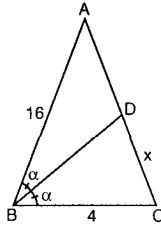
A) 102 B) 104 C) 105 D) 108 E) 110

2. ABC üçgeninde
 $IBDI = IDC$,
 $IAFI = IFBI$,
 $IAEI = IECI$,
 $IBKI = 4$ cm ise,
 $IGEI = x$ kaç cm dir?



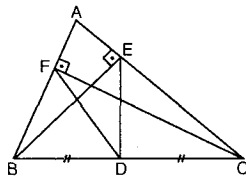
A) $\frac{8}{3}$ B) $\frac{5}{3}$ C) $\frac{3}{4}$ D) $\frac{4}{3}$ E) $\frac{2}{3}$

3. ABC üçgeninde;
[BD] açıortay,
 $IBI = 16$ br ve
 $IBC = 4$ br ise
 $IDCI = x$ 'in alabileceği tam-
sayı değeri kaç br'dir?



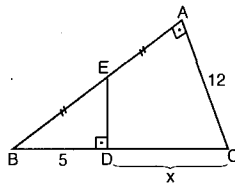
A) 1 B) 2 C) 3 D) 4 E) 5

4. ABC üçgeninde;
[BE] $\perp$ [AC],
[CF] $\perp$ [AB],
 $IBDI = IDC$,
 $IBI = 6$ birim
 $ICI = 10$ birimdir.
 $IDEI + IDFI$ toplamının en küçük tamsayı değeri
kaç birimdir?



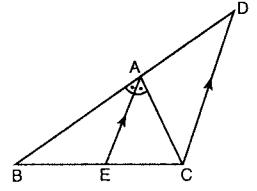
A) 5 B) 6 C) 7 D) 8 E) 9

5. Şekildeki ABC dik üç-
geninde,
[DE] $\perp$ [BC],
 $IBE = IEA$,
 $ACI = 12$ cm,
 $IBDI = 5$ cm ise
 $IDCI = x$ kaç cm dir?



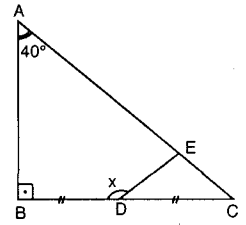
A) 13 B) 14 C) 15 D) 16 E) 18

6. Şekilde [AE],
BAC açısının açıorta-
yıdır. $2IBE = 3IEC$,
[AE] $\parallel$ [CD] ve
 $\Delta AEC = 6 \text{ cm}^2$ ise,
 ΔACD kaç cm^2
dir?



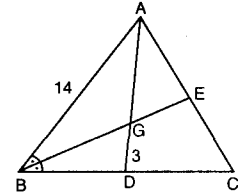
A) 8 B) 9 C) 10 D) 12 E) 15

7. Şekilde
[AB] $\perp$ [BC],
 $IBDI = IDC$,
 $ICI = 4 \cdot IEI$,
 $m(\hat{A}) = 40$ ise
 $m(\hat{BDE}) = x$ kaç dere-
cedir?



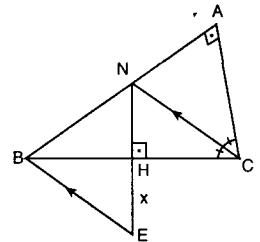
A) 110 B) 120 C) 130 D) 140 E) 150

8. Şekildeki ABC üçge-
ninde
G ağırlık merkezidir.
[BE], açıortay,
 $IBI = 14$ cm,
 $IDCI = 3$ cm ise,
 ICI kaç cm dir?



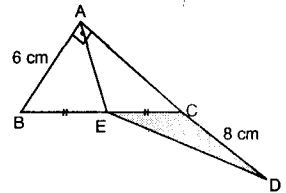
A) $2\sqrt{5}$ B) 4 C) 6
D) 8 E) $\frac{54}{7}$

9. Şekilde,
 $m(\hat{A}) = m(\hat{H}) = 90^\circ$,
[NC] açıortay,
[CN] $\parallel$ [EB],
 $IBI = 8$ br,
 $ICI = 6$ br ise,
 $IHEI = x$ kaç br'dir?



A) 2 B) 3 C) 4 D) 4,2 E) 5,8

10. Şekilde,
[AB] $\perp$ [AC],
 $ABI = 6$ cm,
 $ICD = 8$ cm ve
A, C, D doğrusal
 ΔACD ise, ΔECD kaç
 cm^2 dir?

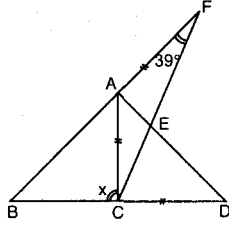


A) 8 B) 10 C) 12 D) 16 E) 18

11. Şekilde,
 $\angle IAC = \angle AFI = \angle ICD$,
 $\angle IAB = \angle IAD$ dir.

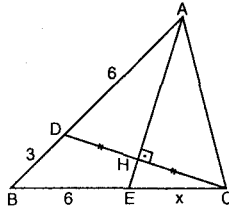
$$m(\angle AFE) = 39^\circ \text{ ise,}$$

$m(\angle ACB) = x$ kaç derecedir?



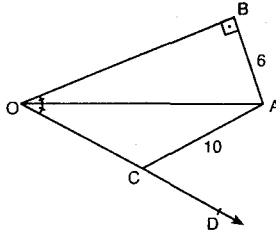
- A) 34 B) 38 C) 39 D) 52 E) 68

12. Şekilde,
 $[AE] \perp [DC]$,
 $IDHI = ICHI$,
 $IAD = IBE = 6$ cm ve
 $IDBI = 3$ cm ise
 $IECI = x$ kaç cm dir?



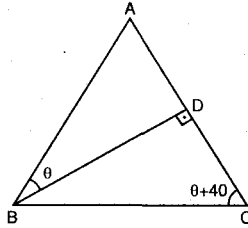
- A) 3 B) 4 C) 4,5 D) 5 E) 5,6

13. Şekilde
 $[AC] \parallel [OB]$,
 $IAB = 6$ cm,
 $IAC = 10$ cm dir.
 $[OA]$, BOD açısının
 açıortayı se,
 $A(ABOC)$ kaç cm^2
 dir?



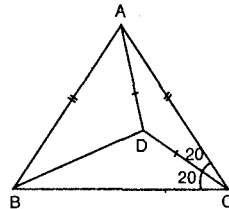
- A) 86 B) 84 C) 76 D) 72 E) 64

14. ABC üçgeninde,
 $IAB = IAC$,
 $[BD] \perp [AC]$,
 $m(\angle ABD) = \theta$,
 $m(\angle ACB) = \theta + 40^\circ$ ise,
 $m(\angle BAC)$ kaç derecedir?



- A) 80 B) 70 C) 60 D) 50 E) 40

15. ABC üçgeninde
 $IAB = IAC$,
 $IAD = IDC$,
 $m(\angle ACD) = m(\angle BCD) = 20^\circ$
 ise $m(\angle CBD)$ kaç derecedir?



- A) 25 B) 20 C) 15 D) 10 E) 5

16. ABC üçgeninde

$$IAB = a \text{ br,}$$

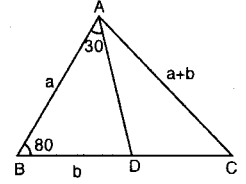
$$IBD = b \text{ br,}$$

$$IAC = (a + b) \text{ br}$$

$$m(\angle ABC) = 80^\circ \text{ ve}$$

$$m(\angle BAD) = 30^\circ \text{ ise,}$$

$m(\angle ACB)$ kaç derecedir?



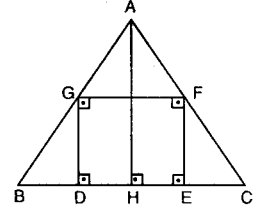
- A) 30 B) 35 C) 40 D) 50 E) 60

17. Şekilde DEFG kare

$$IAHI = 6 \text{ br,}$$

$$IBC = 18 \text{ br ise}$$

DEFG karesinin
 çevresi kaç br'dir?



- A) 12 B) 15 C) 18 D) 20 E) 24

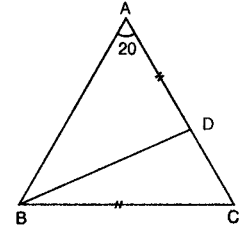
18. ABC üçgeninde

$$IAB = IAC$$

$$IAD = IBC$$

$$m(\angle BAC) = 20^\circ \text{ ise,}$$

$m(\angle ABD)$ kaç derecedir?



- A) 10 B) 15 C) 20 D) 25 E) 30

19. Şekilde

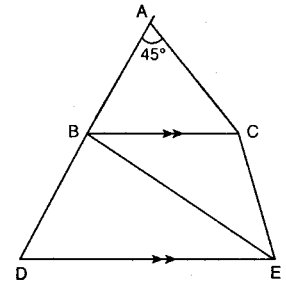
$$[BC] \parallel [DE],$$

$$m(\angle BAC) = 45^\circ,$$

$$IAD = 4\sqrt{2} \text{ br ve}$$

$$IAC = 2 \text{ br ise}$$

ABEC dörtgeninin
 alanı nedir?



- A) 2 B) $2\sqrt{2}$ C) 4 D) $4\sqrt{2}$ E) $5\sqrt{2}$

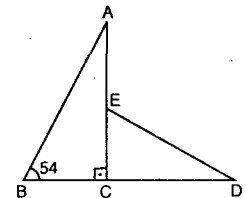
20. Şekilde,

$$[AC] \perp [BD],$$

$$IAB = IED = 2IAE$$

$$\text{ve } m(\angle ABD) = 54^\circ \text{ ise,}$$

$m(\angle EDB)$ kaç derecedir?



- A) 9 B) 18 C) 24 D) 30 E) 36

TARAMA - 10

1. Tümle iki açıdan ölçüsü büyük olan açı, ölçüsü küçük olan açının 3 katından 10 fazladır.

Büyük olan açının, bütünleyenin ölçüsü kaç derecedir?

A) 100 B) 110 C) 120 D) 130 E) 140

2. Şekilde $d_1 \parallel d_2$,
 $IACI = IBCI$,

$m(\widehat{DAB}) = 60^\circ$ ve

$m(\widehat{BCA}) = 40^\circ$ ise

$m(\widehat{BCF}) = x$ kaç derecedir?

A) 10 B) 15 C) 20 D) 25 E) 30

3. ABC üçgeninde

$IADI = IDCI$,

$[DB] \perp [BC]$,

$4|BD| = \sqrt{3}|AB|$ olduğuna göre

$m(\widehat{ABD}) = x$ kaç derecedir?

A) 10 B) 15 C) 20 D) 25 E) 30

4. Şekilde

$m(\widehat{ACD}) = m(\widehat{ACB})$,

$IAEI = IBEI$,

$IBCI = ICDI$ ise

$m(\widehat{BAE}) = x$ kaç derecedir?

A) 30 B) 40 C) 45 D) 60 E) 75

5. Şekildeki ABC üçgeninde

$IADI = IAEI$,

$IDEI = IDFI$,

$ICEI = ICFI$ ve

$m(\widehat{EDF}) = 50^\circ$

ise $m(\widehat{ABC})$ kaç derecedir?

A) 25 B) 30 C) 40 D) 45 E) 50

6. Şekilde

$m(\widehat{BAC}) < 90^\circ$,

$IABI = 8$ br,

$IACI = 6$ br,

$ICDI = 10$ br ve

BCD üçgeninin kenar uzunlukları tamsayı olduğuna göre çevresi en çok kaç birim olur?

A) 36 B) 37 C) 38 D) 39 E) 40

7. Şekilde A, B, C doğrusal

$IADI = 4$ cm,

$ICEI = 8$ cm,

$IACI = 9$ cm,

$IBDI = x$ cm,

$IBEI = y$ cm'dir.

Buna göre $x + y$ toplamı bir tamsayı ise, en çok kaç cm olabilir?

A) 16 B) 17 C) 20 D) 21 E) 22

8. Şekildeki ABC üçgeninde $IADI = IDCI$,

$m(\widehat{EAD}) = m(\widehat{FCA}) = 50^\circ$,

$m(\widehat{AED}) = 60^\circ$ ve

$m(\widehat{FDC}) = 70^\circ$ ise

$\frac{IBEI}{IBFI}$ oranı kaçtır?

A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) 1 D) 2 E) $\frac{5}{3}$

9. ABC üçgeninde $[DF] \parallel [BC]$,

$[BF]$ açıortay,

$IADI = IBDI = 10$ birim,

$IBCI = 16$ birim,

$ICEI = 9$ birim ise

$IEKI = x$ kaç birimdir?

A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

10. ABC üçgeninde

$m(\widehat{A}) = 90^\circ$,

$IADI = IBDI$,

BDC üçgeninde

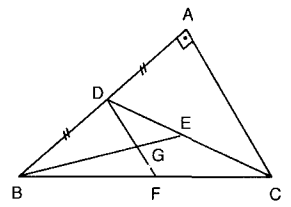
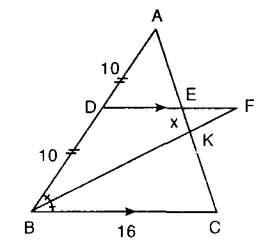
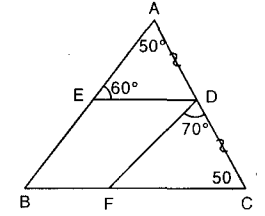
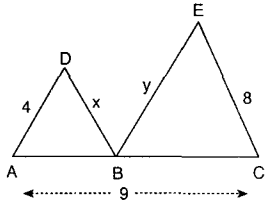
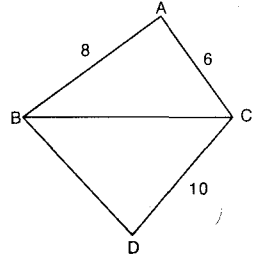
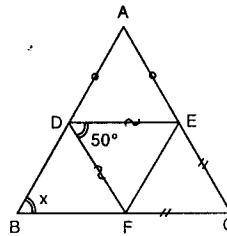
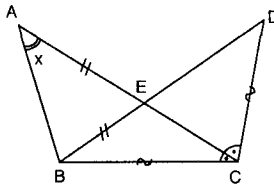
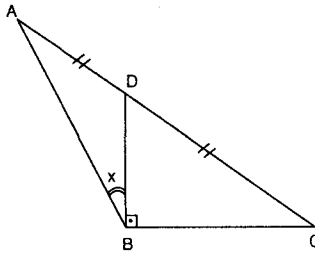
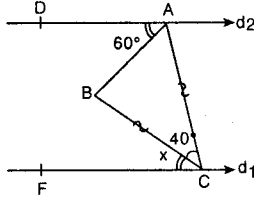
G ağırlık merkezi,

$IGFI = 1$ birim,

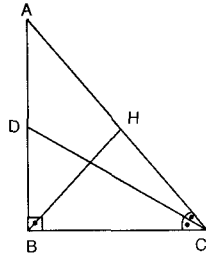
$IADI = 4$ birim ise

IBCI kaç birimdir?

A) 8 B) 9 C) 10 D) 12 E) 15

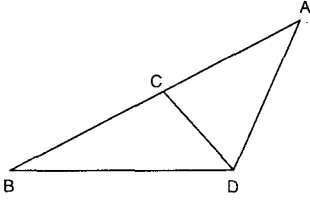


11. Şekilde
 $[AB] \perp [BC]$,
 $[BH] \perp [AC]$,
 $[CD]$ açıortay,
 $|BC| = 10$ cm,
 $|HC| = 6$ cm ise
 $|BD| = x$ kaç cm'dir?



- A) 3 B) 4 C) 5 D) 6 E) 7

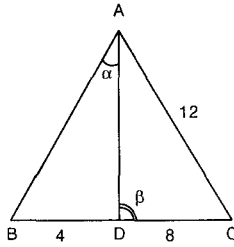
12.



Şekilde $|AB| = |AD| = 5$ cm, $|BD| = 4$ cm,
 $m(\hat{C}BD) = 2m(\hat{B}DC)$ dir. Buna göre $|BC|$ kaç
 cm'dir?

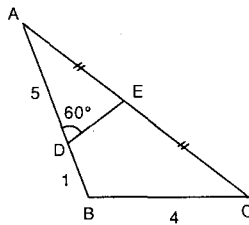
- A) 12 B) 16 C) 18 D) 20 E) 24

13. ABC üçgeninde
 $|AC| = 12$ cm,
 $|BD| = 4$ cm,
 $|DC| = 8$ cm,
 $m(\hat{BAD}) = \alpha$,
 $m(\hat{ADC}) = \beta$ ve
 $\frac{\beta}{\alpha} = 3$ ise $|AB|$ kaç
 cm'dir?



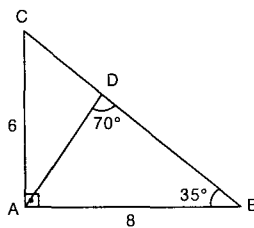
- A) 5 B) 6 C) 7 D) 8 E) 9

14. Şekildeki
 ABC üçgeninde
 $|AD| = 5$ br
 $|BD| = 1$ br
 $|BC| = 4$ br ise
 $|DE|$ kaç birimdir?



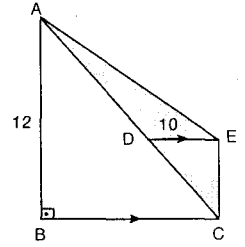
- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

15. ABC dik üçgeninde
 $[CA] \perp [AB]$,
 $m(\hat{B}) = 35^\circ$,
 $m(\hat{ADB}) = 70^\circ$,
 $|AC| = 6$ cm ve
 $|AB| = 8$ cm ise
 $|AD| = x$ kaç cm'dir?



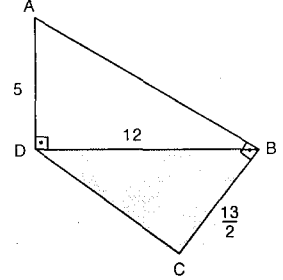
- A) 7 B) 6 C) 5 D) 4 E) 3

16. Şekilde $[AB] \perp [BC]$,
 $[DE] \parallel [BC]$,
 $|DE| = 10$ cm,
 $|AB| = 12$ cm ise
 $A(\hat{AEC})$ kaç cm^2 'dir?



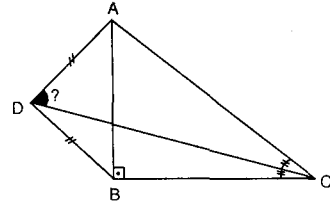
- A) 40 B) 60 C) 80 D) 100 E) 120

17. Şekilde
 $|AD| = 5$ br,
 $|BD| = 12$ br,
 $|BC| = \frac{13}{2}$ br ve
 $[AD] \perp [DB]$,
 $[AB] \perp [BC]$ ise
 $A(\hat{DBC})$ kaç
 cm^2 'dir?



- A) 36 B) 48 C) 60 D) 72 E) 144

18.

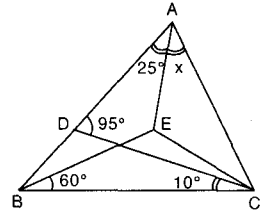


Şekilde $[AB] \perp [BC]$, $|DA| = |DB|$,

$m(\hat{ACD}) = m(\hat{BCD})$, olduğuna göre $m(\hat{ADC})$ kaç
 derecedir?

- A) 90 B) 75 C) 60 D) 30 E) 15

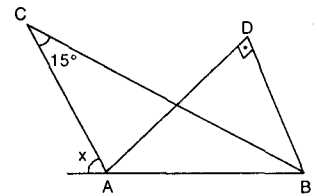
19. ABC üçgeninde
 $|AE| = |DC|$,
 $m(\hat{BAE}) = 25^\circ$,
 $m(\hat{ADC}) = 95^\circ$,
 $m(\hat{EBC}) = 60^\circ$,
 $m(\hat{BCD}) = 10^\circ$,



olduğuna göre $m(\hat{EAC}) = x$ kaç derecedir?

- A) 5 B) 10 C) 15 D) 20 E) 25

20. Şekilde
 $[AC] \parallel [BD]$,
 $[AD] \perp [BD]$,
 $m(\hat{C}) = 15^\circ$ ve
 $|CE| = 2|AB|$
 olduğuna göre



$m(\hat{FAC}) = x$ kaç
 derecedir?

- A) 15 B) 30 C) 45 D) 60 E) 75

TARAMA - 11

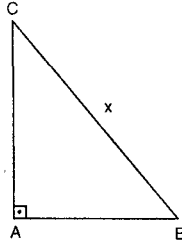
1. Şekilde

 $[AB] \perp [AC]$,

Çevre (ABC) = 14 cm ve

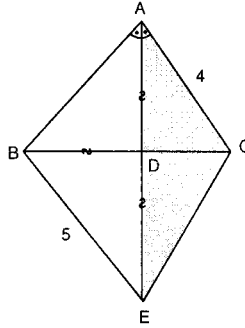
Alan(ABC) = 7 cm² ise,

IBC = x kaç cm'dir?



A) 5 B) 6 C) 7 D) 8 E) 9

2. ABC üçgeninde

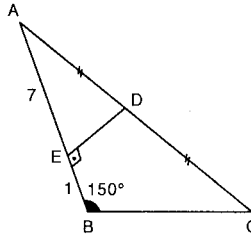
 $[AE]$ açıortay, $IDA = IBD = IDE$, $IEB = 5$ cm ve $IAE = 4$ cm ise $\Delta A(ABC)$ kaç cm²'dir?

A) 20 B) 16 C) 12 D) 10 E) 8

3. Şekildeki ABC de

 $IAI = IDC$, $[DE] \perp [AB]$, $IAE = 7$ cm, $IEB = 1$ cm ve $m(\hat{A}) = 150^\circ$ ise

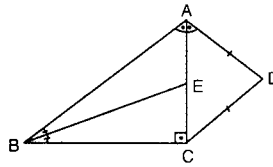
IBC kaç cm'dir?

A) 2 B) $2\sqrt{3}$ C) $3\sqrt{2}$ D) $2\sqrt{6}$ E) $4\sqrt{3}$

4. Şekilde,

 $[AC] \perp [BC]$, $m(\hat{BAC}) = m(\hat{CAD})$, $[BE]$ açıortay, $IAI = IDC$, $ICE = 4,5$ br ve $IAE = 7,5$ br ise

ADI kaç br'dir?



A) 5 B) 5,5 C) 6 D) 6,5 E) 7,5

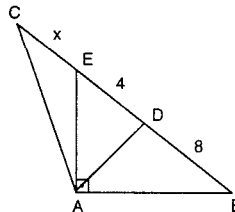
5. Şekilde

 $m(\hat{EAB}) = 90^\circ$, $[AE]$; $\hat{CAD}$ açısının

açıortayı,

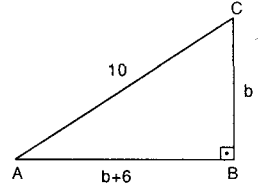
 $IDB = 8$ br ve $IED = 4$ br ise

IEC = x uzunluğu kaç br'dir?



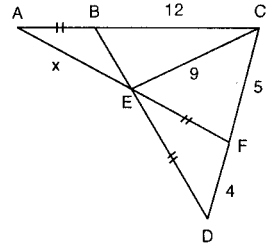
A) 4 B) 6 C) 8 D) 10 E) 12

6. Şekilde

 $[BC] \perp [AB]$, $IBC = b$ cm, $ABI = b + 6$ cm, $ACI = 10$ cm iseABC dik üçgeninin alanı kaç cm²'dir?

A) 15 B) 16 C) 17 D) 18 E) 19

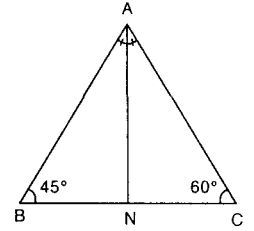
7. Şekilde;

 $IEFI = IEDI = IABI$, $IDFI = 4$ cm, $ICFI = 5$ cm, $ICEI = 9$ cm, $IBC = 12$ cm ve $IAE = x$ ise x kaç cm'dir?A) $\frac{27}{5}$ B) $\frac{27}{4}$ C) $\frac{32}{5}$ D) 8 E) 9

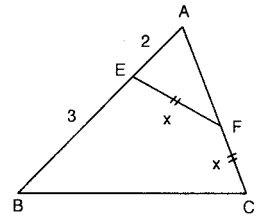
8. ABC üçgeninde;

 $m(\hat{B}) = 45^\circ$, $m(\hat{C}) = 60^\circ$ ve $[AN]$ açıortay ise $\frac{IBNI}{INCI}$ oranı

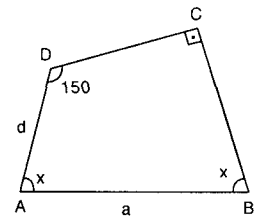
kaçtır?

A) 2 B) $\sqrt{3}$ C) $\sqrt{2}$ D) $\sqrt{\frac{3}{2}}$ E) $\sqrt{\frac{5}{2}}$

9. ABC eşkenar üçgen,

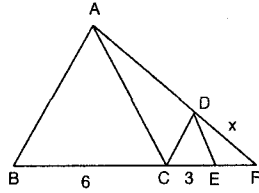
 $IEB = 3$ cm ve $IAE = 2$ cm ise $IEFI = IFCI = x$ kaç cm'dir?A) $\frac{18}{7}$ B) $\frac{19}{8}$ C) $\frac{5}{2}$ D) 3 E) 410. $m(\hat{A}) = m(\hat{B}) = x$, $m(\hat{ADC}) = 150^\circ$, $DC \perp BC$, $IBC = 10$ cm'dir. $ABI = a$ ve $ADI = d$ ise

a + d toplamı kaçtır?



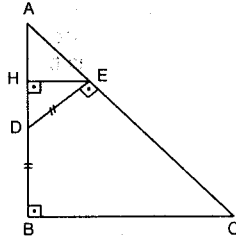
A) 10 B) 15 C) 20 D) 25 E) 30

11. ABC ve DCE birer eşkenar üçgen,
 $IBC = 6$ cm,
 $ICE = 3$ cm ise,
 $IDFI = x$ kaç cm'dir?



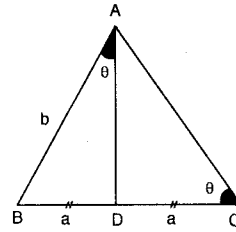
- A) 3 B) 4 C) $2\sqrt{3}$ D) $3\sqrt{3}$ E) $4\sqrt{3}$

12. Şekilde
 $IACI = 12$ cm,
 $IBC = 6$ cm ve
 $IBDI = IDEI$ ise
 $IHEI$ kaç cm'dir?



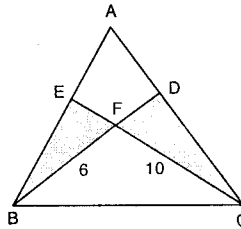
- A) $\sqrt{2}$ B) $\sqrt{3}$ C) $2\sqrt{3}$ D) 3 E) $3\sqrt{3}$

13. ABC üçgeninde
 $IABI = b$,
 $IBDI = IDC = a$,
 $m(\hat{BAD}) = m(\hat{ACD}) = \theta$
ise $\frac{b^2}{a^2}$ oranının eşiti kaçtır?



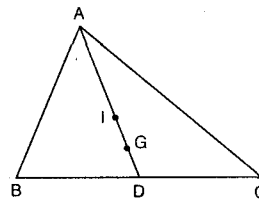
- A) 2 B) $\frac{3}{2}$ C) 1 D) $\sqrt{3}$ E) $\sqrt{2}$

14. Şekilde;
 $\Delta(DCF) = 2 \cdot \Delta(EBF)$,
 $IBFI = 6$ br,
 $IFCI = 10$ br ise
 $\frac{IEFI}{IDFI}$ oranı kaçtır?



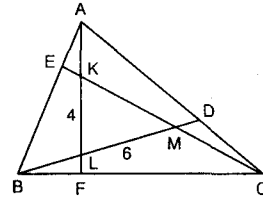
- A) $\frac{5}{6}$ B) 1 C) $\frac{7}{6}$ D) $\frac{8}{7}$ E) $\frac{9}{8}$

15. ABC üçgeninde G ağırlık merkezi ve I iç teğet çemberin merkezidir.
 $IADI = IBDI = IDC = a$
 $IABI = 6\sqrt{2}$ ise
 $IIGI$ kaç br'dir?



- A) $2(3\sqrt{2} - 4)$ B) $2\sqrt{3} - \sqrt{5}$
C) $3(4\sqrt{3} - 4)$ D) $\sqrt{6}$
E) $2(\sqrt{5} - \sqrt{3})$

16.



- ABC üçgeninde $m(\hat{AFC}) = m(\hat{ADB}) = m(\hat{BEC})$,
 $IKLI = 4$ br, $ILMI = 6$ br ve $IBC = 12$ br ise
 $IACI$ kaç br'dir?

- A) 12 B) 15 C) 18 D) 21 E) 24

17.

Şekilde

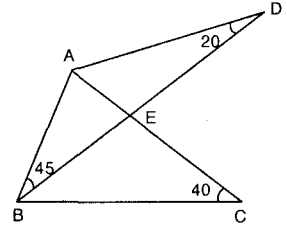
$$m(\hat{ADB}) = 20^\circ,$$

$$m(\hat{ABD}) = 45^\circ,$$

$$m(\hat{ACB}) = 40^\circ \text{ ve}$$

$$ICAI = ICBI = 4 \text{ br}$$

$$\text{ise } IADI \text{ kaç br'dir?}$$



- A) 4 B) $4\sqrt{2}$ C) $4\sqrt{3}$ D) 8 E) 12

18.

ABC üçgeninde

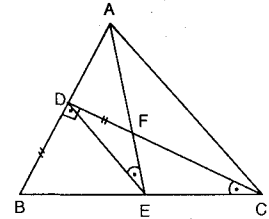
$$[CD] \perp [AB],$$

$$IBDI = IDFI,$$

$$m(\hat{DEF}) = m(\hat{BCD}) \text{ ve}$$

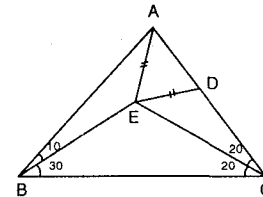
$$IDEI = 10 \text{ br ise}$$

$$\Delta(DBC) \text{ kaç br'dir?}$$



- A) 100 B) 75 C) 50 D) 40 E) 25

19.



$$ABC \text{ üçgeninde } IABI = IACI, IAEI = IEDI,$$

$$m(\hat{ABE}) = 10^\circ, m(\hat{ECB}) = 30^\circ \text{ ve}$$

$$m(\hat{ACE}) = m(\hat{ECB}) = 20^\circ \text{ ise } m(\hat{DEC}) \text{ kaç derecedir?}$$

- A) 30 B) 45 C) 50 D) 60 E) 75

20.

Şekilde

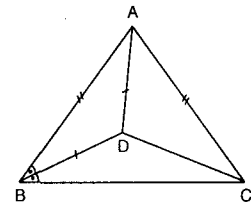
$$IABI = IACI,$$

$$IADI = IDBI,$$

$$[BD] \text{ açıortay ve}$$

$$m(\hat{BAC}) = 100^\circ \text{ ise}$$

$$m(\hat{BDC}) \text{ kaç derecedir?}$$

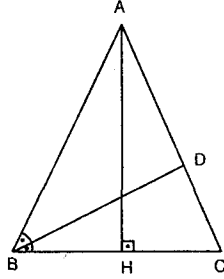


- A) 120 B) 130 C) 135 D) 140 E) 150

TARAMA - 12

1. Şekildeki ABC üçgeninde
 $IABI = IACI$,
 $[AH] \perp [BC]$,
 $[BD]$ açıortay,
 $IBDI = 12$ cm ve

$IDCI = 8$ cm ise $A(ABC)$
 kaç cm^2 'dir?

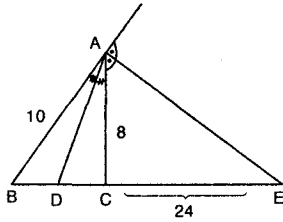


- A) $75\sqrt{7}$ B) $80\sqrt{7}$ C) $84\sqrt{7}$
 D) $96\sqrt{7}$ E) $120\sqrt{7}$

2. ABC üçgeninde
 $[AD]$ iç açıortay,
 $[AE]$ dış
 açıortaydır.
 $IABI = 10$ br
 $IACI = 8$ br ve
 $ICEI = 24$ br ise

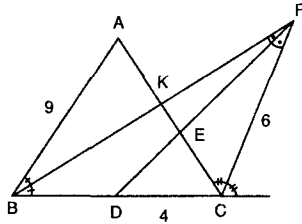
$A(ADC)$ kaç bi-
 rimkaredir?

- A) $\frac{27}{4}$ B) $\frac{29}{4}$ C) $\frac{15}{2}$ D) $\frac{31}{3}$ E) $\frac{32}{3}$



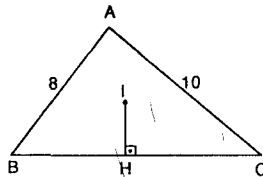
3. ABC üçgeninde
 $IBDI = IDFI$,
 $[BF]$, $[CF]$ ve
 $[FD]$ bulundukları
 açılarını
 açıortaylardır.
 $IDCI = 4$ br,
 $ICFI = 6$ br ve
 $IABI = 9$ br ise
 $IEFI$ kaç br'dir?

- A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$



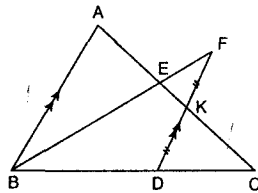
4. ABC üçgeninde
 $m(\hat{BAC}) = 2m(\hat{ACB})$,
 $IABI = 8$ br,
 $IACI = 10$ br'dir.
 $[IH] \perp [BC]$ ve
 I noktası
 açıortayların kesim
 noktası ise $IHHI$ kaç birimdir?

- A) $3\sqrt{7}$ B) $2\sqrt{5}$ C) $\sqrt{7}$
 D) $\sqrt{14}$ E) $2\sqrt{3}$

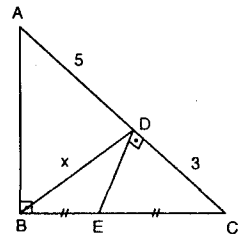


5. Şekildeki ABC
 üçgeninde
 $[AB] \parallel [DE]$,
 $IDKI = IKEI$ ve
 $IBDI = 2IDCI$
 $A(ABC) = 180cm^2$ ise
 $A(FEK)$ kaç cm^2 'dir?

- A) 6 B) 8 C) 10 D) 12 E) 20

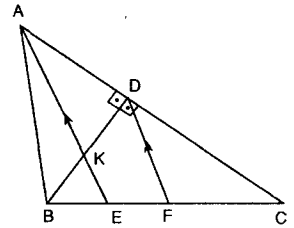


6. Şekildeki ABC dik
 üçgeninde
 $[AB] \perp [BC]$,
 $[ED] \perp [AC]$,
 $IBEI = IECI$,
 $IADI = 5$ br ve
 $IDCI = 3$ br ise
 $IBDI = x$ kaç birimdir?



- A) $\sqrt{15}$ B) $\sqrt{21}$ C) $2\sqrt{3}$ D) $3\sqrt{2}$ E) $4\sqrt{3}$

7. Şekildeki
 ABC üçgeninde
 $[BD] \perp [AC]$,
 $[DF] \parallel [AE]$,
 $IBFI = IFCI$ ve
 $IAKI = IDFI$ dir.
 $IBCI = 16$ cm ise
 $IKEI$ kaç cm'dir?

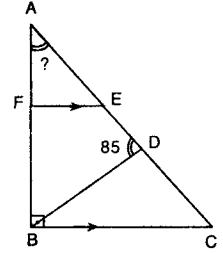


- A) 3 B) 4 C) $3\sqrt{2}$ D) $4\sqrt{2}$ E) 6

8. ABC üçgeninde
 $[AB] \perp [BC]$,
 $IBFI = IBDI$,
 $IEDI = IDCI$,
 $[EF] \parallel [BC]$ ve

$m(\hat{ADB}) = 85^\circ$ ise

$m(\hat{BAC})$ kaç derecedir?



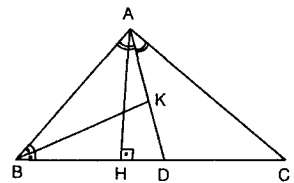
- A) 25 B) 30 C) 35 D) 40 E) 45

9. Şekildeki ABC
 üçgeninde
 $[AD]$ ve $[BK]$
 açıortaylardır.
 $IAHI = 5$ br,
 $3IAKI = 2IADI$ ve

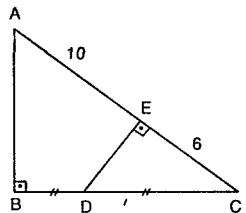
$A(ABC) = 15$ br² ise

ABC üçgeninin çevresi kaç birimdir?

- A) 12 B) 15 C) 18 D) 21 E) 24



10. ABC üçgeninde
 $[AB] \perp [BC]$,
 $IBDI = IDCI$,
 $IAEI = 10$ br,
 $ICEI = 6$ br ise
 $A(ABC)$ kaç br²'dir?



- A) $32\sqrt{3}$ B) 30 C) $24\sqrt{2}$
 D) 24 E) 16

11. ABC üçgeninde

$$m(\hat{A}BD) = m(\hat{A}CB),$$

$$m(\hat{B}AC) = 2.m(\hat{D}CB),$$

$$IABI = 4 \text{ br},$$

$$IDCI = 6 \text{ br}$$

Buna göre IBCI kaç birimdir?

- A) $2\sqrt{3}$ B) 3 C) 4 D) $4\sqrt{3}$ E) 6

12. ABC üçgeninde

G, ağırlık merkezi

I, açıortayların kesim

noktasıdır.

[IG] // [BC]

olduğuna göre

$\frac{a}{b+c}$ oranı kaçtır?

- A) $\frac{1}{3}$ B) $\frac{1}{2}$ C) 1 D) $\frac{3}{2}$ E) 2

13. Şekilde

$$IDEI = IEFI = 4 \text{ cm}$$

$$IDBI = 3 \text{ cm},$$

$$IBCI = 5 \text{ cm'dir.}$$

Buna göre $\frac{IACI}{IAFI-IFCI}$

kaçtır?

- A) 2,5 B) 3 C) 3,5 D) 4 E) 5

14. Şekilde IBEI = IEAI,

$$IBDI = IDCI \text{ dir.}$$

$$IACI = 8 \text{ birim},$$

$$IAKI = 2 \text{ birim ise}$$

$\frac{IEFI}{IFCI}$ oranı kaçtır?

- A) $\frac{1}{4}$ B) $\frac{3}{8}$ C) $\frac{4}{5}$ D) $\frac{5}{8}$ E) $\frac{2}{5}$

15. Şekildeki ABC

üçgeninde G noktası

ağırlık merkezidir.

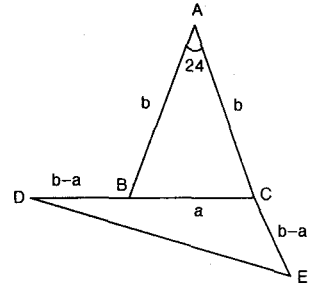
$$ILD I = 3IGI \text{ ve}$$

$$IKCI = \frac{5}{2} \text{ cm ise}$$

IAEI = x kaç cm'dir?

- A) 3 B) $\frac{25}{8}$ C) $\frac{13}{4}$ D) $\frac{27}{8}$ E) $\frac{29}{8}$

16.



Şekilde $IABI = IACI = b \text{ br}$, $IDBI = ICEI = (b-a) \text{ br}$, $IBCI = a \text{ br}$, A, C, E doğrusal ve $m(\hat{B}AE) = 24^\circ$ ise

$m(\hat{D}EA)$ kaç derecedir?

- A) 50 B) 51 C) 52 D) 54 E) 56

17.

ADC üçgeninde

$$IABI = IACI = a \text{ br},$$

$$IBDI = b \text{ br},$$

$$IBCI = (a+b) \text{ br}$$

$$\text{ve } m(\hat{D}AC) = 100^\circ$$

ise $m(\hat{B}CD)$ kaç derecedir?

- A) 5 B) 10 C) 15 D) 20 E) 30

18.

ABC üçgeninde

$$IABI = IACI,$$

$$IADI = IDBI,$$

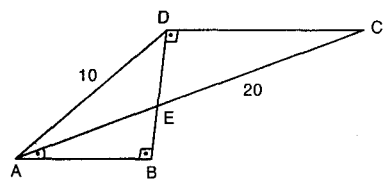
$$m(\hat{B}AD) = 6^\circ \text{ ve}$$

$$m(\hat{D}AC) = 66^\circ \text{ ise}$$

$m(\hat{B}CD)$ kaç derecedir?

- A) 18 B) 24 C) 30 D) 36 E) 48

19.



Şekilde $[AB] \perp [BD]$, $[BD] \perp [DC]$, $IABI = IDBI$,

$IADI = 10 \text{ br}$ ve $IECI = 20 \text{ br}$ ise $m(\hat{B}AC)$ kaç derecedir?

- A) 5 B) 10 C) 15 D) 20 E) 25

20.

ABC üçgeninde

$$IABI = IACI = b \text{ br},$$

$$IBCI = a \text{ br},$$

$$IADI = x \text{ br},$$

$$m(\hat{B}AD) = 10^\circ,$$

$$m(\hat{ABD}) = 20^\circ \text{ ve}$$

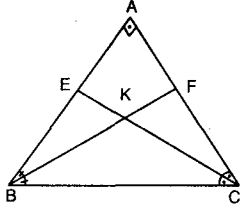
$m(\hat{DBC}) = 50^\circ$ ise x'in

a türünden değeri nedir?

- A) $\frac{a}{2}$ B) $\frac{3a}{4}$ C) a D) $\frac{4a}{3}$ E) $\frac{3a}{2}$

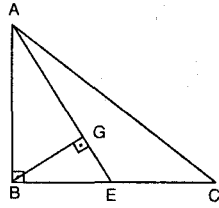
TARAMA - 13

1. Şekildeki ABC dik üçgeninde [BF] ve [CE] açıortaylardır. $[AB] \perp [AC]$, $IKCI = 4\sqrt{2}$ cm ve $IKFI = 3$ cm ise **IFCI kaç cm'dir?**



- A) $2\sqrt{5}$ B) $3\sqrt{2}$ C) $\sqrt{17}$
D) $\sqrt{19}$ E) $\sqrt{21}$

2. Şekildeki ABC üçgeninde $[AB] \perp [BC]$, $[BG] \perp [AE]$, G noktası ağırlık merkezidir.

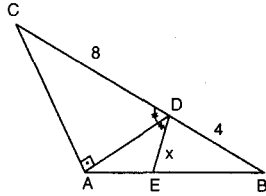


$IACI = 6\sqrt{6}$ cm ise

Alan(ABC) kaç cm²dir?

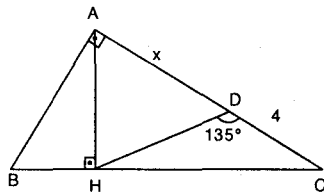
- A) $18\sqrt{2}$ B) $36\sqrt{2}$ C) 72
D) 144 E) 162

3. Şekilde $[AC] \perp [AD]$, $[AD]$, CDE açısının açıortayıdır. $ICDI = 8$ cm ve $IBDI = 4$ cm olduğuna göre **IDEI = x kaç cm'dir?**



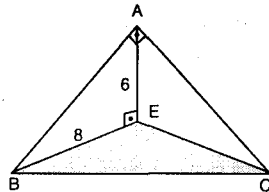
- A) 2 B) 3 C) $\frac{10}{3}$ D) $\frac{15}{4}$ E) $\frac{21}{4}$

4. Şekilde $[AB] \perp [AC]$, $m(\hat{CDH}) = 135^\circ$, $IBCI = 5 \cdot IBHI$ dir. $IDCI = 4$ cm ise **IADI = x kaç cm'dir?**



- A) 12 B) 9 C) 8 D) 6 E) 4

5. Şekilde $IABI = IACI$, $[AB] \perp [AC]$, $[AE] \perp [BE]$, $IAEI = 6$ cm, $IBEI = 8$ cm'dir. Buna göre

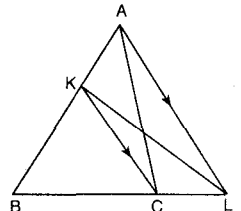


Alan(BEC) kaç cm²dir?

- A) 4 B) 6 C) 8 D) 10 E) 12

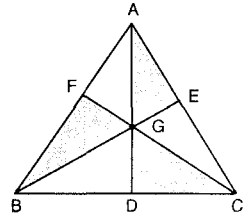
6. Şekilde $[KC] \parallel [AL]$ dir.

Buna göre $\frac{A(ABC)}{A(KBL)}$ oranı kaçtır?



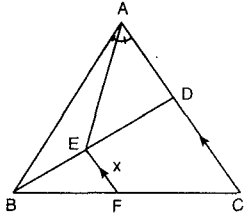
- A) $\frac{5}{3}$ B) $\frac{5}{2}$ C) $\frac{3}{2}$ D) $\frac{1}{2}$ E) 1

7. ABC üçgeninde G ağırlık merkezidir. $IADI = 10,5$ cm, $IBEI = 36$ cm, $ICFI = 37,5$ cm olduğuna göre **taralı alanlar toplamı kaç cm²dir?**



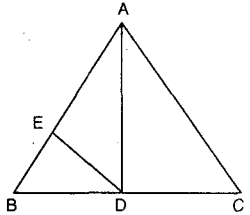
- A) 72 B) 98 C) 100 D) 112 E) 126

8. ABC üçgeninde $[AE]$ açıortay, $[EF] \parallel [DC]$, $IABI = 8$ cm, $IACI = 12$ cm ve $m(\hat{DBC}) = \frac{m(\hat{B}) - m(\hat{C})}{2}$ olduğuna göre **IEFI = x kaç cm'dir?**



- A) 1 B) $\sqrt{2}$ C) 2 D) $2\sqrt{2}$ E) $2\sqrt{3}$

9. ABC üçgeninde $IBCI = a = 12$ cm, $IABI = c = 8$ cm, $IDEI = IDCI = IADI = a - c$ olduğuna göre **IBEI kaç cm'dir?**



- A) 2 B) 3 C) 4 D) 5 E) 6

10. ABC üçgeninde D, A, C doğrusal ve A, B, E doğrusal, $IABI = IADI = c$, $IBEI = b - c$, $IACI = b$

$m(\hat{ACB}) = 3 \cdot m(\hat{BCE})$,

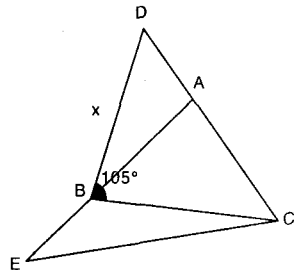
$m(\hat{DBC}) = 105^\circ$,

$IBCI = 8$ cm

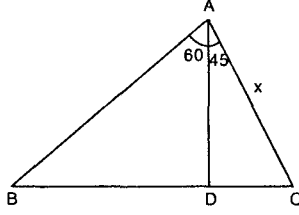
olduğuna göre

IDBI = x kaç cm'dir?

- A) 8 B) $8\sqrt{2}$ C) $8\sqrt{3}$
D) $4\sqrt{6}$ E) $4\sqrt{3}$

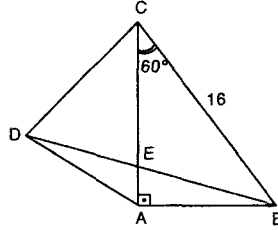


11. ABC üçgeninde
 $|BD| = 3 \cdot |DC|$,
 $m(\hat{BAD}) = 60^\circ$,
 $m(\hat{DAC}) = 45^\circ$ dir.
 $|AB| = 12\sqrt{3}$ br ise
 $|AC| = x$ kaç
birimdir?



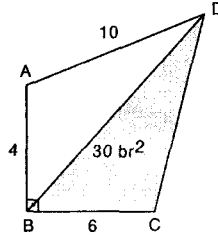
- A) $6\sqrt{3}$ B) $6\sqrt{2}$ C) $8\sqrt{3}$
D) $8\sqrt{2}$ E) $12\sqrt{2}$

12. Şekilde
 $[CA] \perp [AB]$,
 $m(\hat{ACB}) = 60^\circ$,
 $|BC| = 16$ cm ve
ACD eşkenar
üçgen olduğuna
göre $|AE|$ kaç
cm'dir?



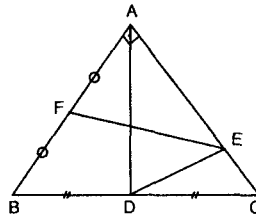
- A) 1 B) 2 C) $\frac{8}{3}$ D) $\frac{5}{2}$ E) 3

13. Şekilde
 $[AB] \perp [BC]$,
 $|AD| = 10$ br,
 $|AB| = 4$ br,
 $|BC| = 6$ br ve
 $A(BCD) = 30 \text{ br}^2$ ise
 $|BD|$ uzunluğu kaç bi-
rimdir?



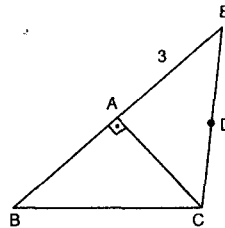
- A) 12 B) 14 C) $6\sqrt{5}$
D) $8\sqrt{5}$ E) $2\sqrt{41}$

14. Şekilde
 $[AB] \perp [AC]$,
F ve D orta nokta-
lardır.
 $|AB| = 6$ cm ve
 $|AC| = 8$ cm ise
 $A(BDEF)$ kaç
 cm^2 'dir?



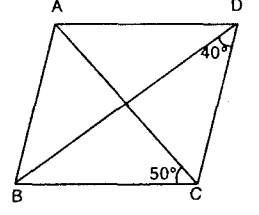
- A) 10 B) 12 C) 14 D) 16 E) 18

15. Şekilde D noktası ABC
üçgeninin dış teğet
çemberinin merkezidir.
 $[AB] \perp [AC]$,
 $3 \cdot |AC| = |AB|$,
 $|AE| = 3$ birim ise
 $|BC|$ kaç birimdir?



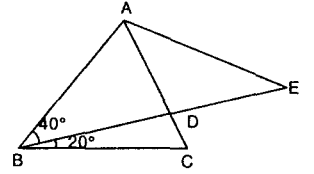
- A) $2\sqrt{2}$ B) $\sqrt{10} - 1$ C) 4
D) 5 E) $10 - \sqrt{10}$

16. Şekilde
 $|AB| = |AC| = |DC|$,
 $m(\hat{ACB}) = 50^\circ$,
ve $m(\hat{BDC}) = 40^\circ$ ise
 $m(\hat{ADB})$ kaç dere-
cedir?



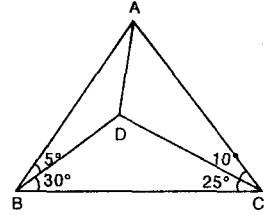
- A) 15° B) 20° C) 35 D) 40 E) 45

17. ABC eşkenar
üçgen
 $|AB| = |DE|$,
 $m(\hat{ABE}) = 40^\circ$ ve
 $m(\hat{ECB}) = 20^\circ$ ise
 $m(\hat{AED})$ kaç derecedir?



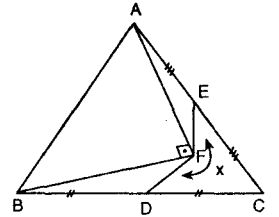
- A) 30 B) 36 C) 40 D) 54 E) 60

18. ABC üçgeninde
 $|AB| = |AC|$,
 $m(\hat{ABD}) = 5^\circ$,
 $m(\hat{DBC}) = 30^\circ$,
 $m(\hat{ACD}) = 10^\circ$ ve
 $m(\hat{DCB}) = 25^\circ$ ise
 $m(\hat{ADC})$ kaç derecedir?



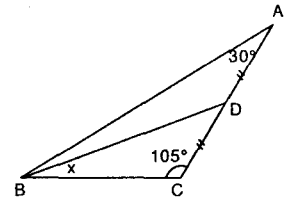
- A) 85 B) 90 C) 95 D) 100 E) 110

19. ABC eşkenar üçgen,
 $[AF] \perp [FB]$,
 $|BD| = |DC|$ ve
 $|AE| = |EC|$ ise
 x kaç derecedir?



- A) 180 B) 200 C) 210 D) 225 E) 240

20. ABC üçgeninde
 $m(\hat{BAC}) = 30^\circ$,
 $m(\hat{ACB}) = 105^\circ$ ve
 $|AD| = |DC|$ ise
 $m(\hat{CBD}) = x$ kaç
derecedir?

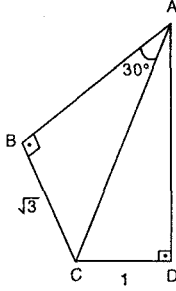


- A) 10 B) 15 C) 30 D) 40 E) 45

TARAMA - 14

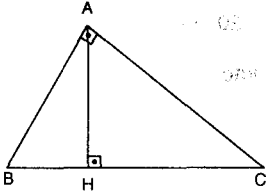
1. Şekilde

$m(\hat{BAD}) = 30^\circ$,
 $[AB] \perp [BC]$,
 $[AD] \perp [DC]$,
 $|BC| = \sqrt{3}$ cm ve
 $|CD| = 1$ cm ise
 $|AC|$ kaç cm'dir?



A) $\sqrt{2}$ B) $\sqrt{3}$ C) $2\sqrt{3}$ D) $\sqrt{7}$ E) $2\sqrt{7}$

2.

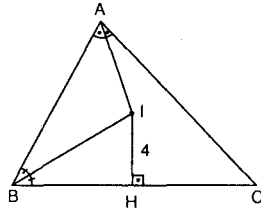


ABC üçgeninde $[AB] \perp [AC]$, $[AH] \perp [BC]$ ve
 $\frac{|AB|}{|IH|} = \frac{3}{8}$ dir. $|AB| + |AC| = (2 + 4\sqrt{2})$ birim ise $|BC|$
 kaç birimdir?

A) 3 B) $2\sqrt{3}$ C) 4 D) 6 E) $3\sqrt{2}$

3. ABC üçgeninde
 I noktası açıortayların
 kesim noktasıdır.

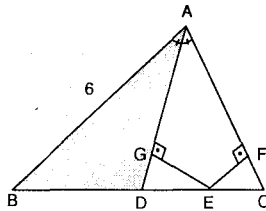
$\Delta A(ABC) = 32$ cm² ve
 $|IH| = 4$ cm ise
 ABC üçgeninin
 çevresi kaç cm'dir?



A) 12 B) 14 C) 16 D) 18 E) 20

4. Şekilde
 $[AD]$ açıortay,
 $|AD| = |AC|$,
 $|EF| = 1$ cm,
 $|GE| = 3$ cm ve
 $|AB| = 6$ cm ise

$\Delta A(ABD)$ kaç cm'dir?

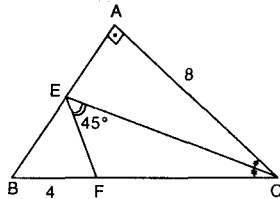


A) 6 B) 10 C) 12 D) 14 E) 18

5. Şekilde

$[AB] \perp [AC]$,
 $[CE]$ açıortay,
 $m(\hat{CEF}) = 45^\circ$,
 $|BF| = 4$ cm ve
 $|AC| = 8$ cm ise

$\Delta A(ABC)$ kaç
 cm²'dir?

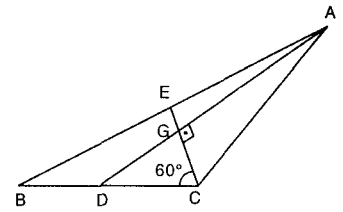


A) 2 B) 4 C) 8 D) 16 E) 32

6. Şekilde ABC
 üçgeninde
 G ağırlık
 merkezi,

$m(\hat{DCG}) = 60^\circ$,
 $[AD] \perp [CG]$ ve
 $|EC| = 6$ cm

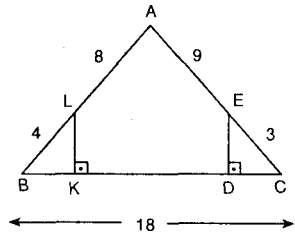
ise $\Delta A(ABC)$
 kaç cm²'dir?



A) $48\sqrt{3}$ B) $44\sqrt{3}$ C) $42\sqrt{3}$
 D) $40\sqrt{3}$ E) $38\sqrt{3}$

7. Şekildeki ABC
 üçgeninde

$|AL| = 8$ br,
 $|BL| = 4$ br,
 $|CE| = 3$ br,
 $|AE| = 9$ br ve
 $|BC| = 18$ br ise
 $|KD|$ kaç birimdir?



A) $\frac{51}{4}$ B) $\frac{49}{4}$ C) $\frac{47}{4}$ D) $\frac{45}{4}$ E) $\frac{43}{4}$

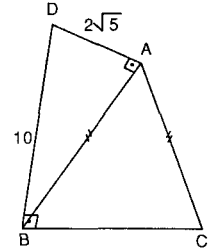
8.

Şekilde
 DAB dik üçgendir.

$[DA] \perp [AB]$,
 $[DB] \perp [BC]$,

$|AD| = 2\sqrt{5}$ cm,
 $|BD| = 10$ cm,
 $|AB| = |AC|$ ise

$\Delta A(ABC)$ kaç cm²'dir?



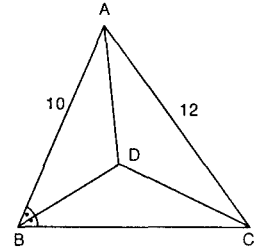
A) 40 B) 38 C) 36 D) 34 E) 32

9.

Şekildeki ABC
 üçgeninde
 $[BD]$ açıortaydır.

$\Delta A(ABD) = \Delta A(BDC)$,
 $|AC| = 12$ cm,
 $|AB| = 10$ cm ve
 $|BD| = 3$ cm ise

$\Delta A(ADC)$ kaç cm²'dir?



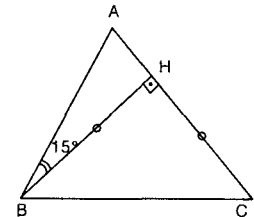
A) 18 B) 24 C) 30 D) 48 E) 52

10.

Şekildeki ABC
 üçgeninde $[BH] \perp [HC]$,
 $|BH| = |HC|$,

$m(\hat{ABH}) = 15^\circ$ ve

$\Delta A(ABH) = (2 + \sqrt{3})$ cm²
 ise $|BC|$ kaç cm'dir?



A) $\sqrt{3} + 1$ B) $\sqrt{3} + \sqrt{2}$ C) $4 + 2\sqrt{3}$
 D) $\sqrt{6} + \sqrt{2}$ E) $2\sqrt{3} + \sqrt{2}$

11. Şekilde ABC dik üçgen ve $[DE] \parallel [AC]$ dir. $|BC| = 25$ cm, $|AC| = 24$ cm, $|DE| = 3$ cm ise

$\frac{A(BEC)}{A(ABC)}$ oranı kaçtır?

- A) $\frac{1}{8}$ B) $\frac{1}{7}$ C) $\frac{1}{6}$ D) $\frac{1}{5}$ E) $\frac{1}{4}$

12. Şekilde $[DF] \parallel [BC]$ ve

$$A(\triangle DEF) = 9 \text{ br}^2$$

$$A(\triangle EBC) = 16 \text{ br}^2 \text{ dir.}$$

Buna göre $A(\triangle ADF)$ kaç br^2 dir?

- A) 50 B) 54 C) 57 D) 60 E) 63

13. Şekilde ABC eşkenar üçgen,

$|AD| = |DB|$,
 $[DE] \parallel [BC]$ ve
 $[DF] \perp [BE]$ dir.
 $A(\triangle ADE) = S_1$
 $A(\triangle DBF) = S_2$ ise,

$\frac{S_1}{S_2}$ oranı kaçtır?

- A) 2 B) 3 C) $\frac{4}{3}$ D) $\frac{5}{3}$ E) $\frac{3}{2}$

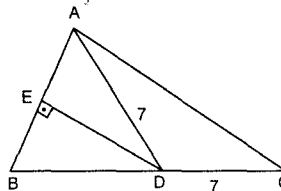
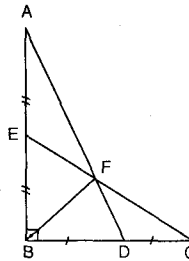
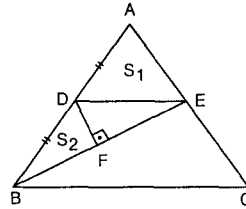
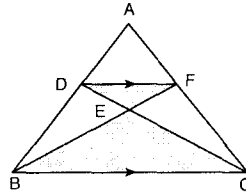
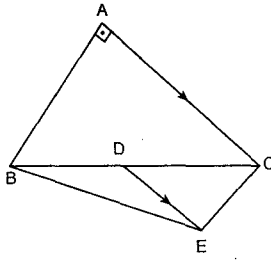
14. Şekilde

$[AB] \perp [BC]$
 $|AE| = |EB|$
 $|BD| = |DC|$
 $|AD| = 8$ cm ve
 $|EC| = 6$ cm'dir.
 $|BF|$ kaç cm'dir?

- A) $4\sqrt{5}$ B) $\frac{4\sqrt{5}}{3}$ C) $\frac{8\sqrt{5}}{3}$
D) $\frac{4\sqrt{5}}{5}$ E) $\frac{8\sqrt{5}}{5}$

15. ABC üçgeninde $|AD| = |DC| = 7$ br, $|AB| = |BD|$ ve $|AC| = 2|ED|$ ise $|AC|$ kaç br'dir?

- A) $3\sqrt{3}$ B) $\frac{7\sqrt{3}}{2}$ C) $4\sqrt{3}$
D) $6\sqrt{3}$ E) $7\sqrt{3}$



16. ABC üçgeninde

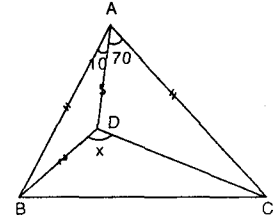
$|AB| = |AC|$,
 $|DA| = |DB|$,

$$m(\angle BAD) = 10^\circ$$

ve $m(\angle DAC) = 70^\circ$ ise

$m(\angle BDC) = x$ kaç derecedir?

- A) 90 B) 100 C) 110 D) 120 E) 135



17. ABC üçgeninde

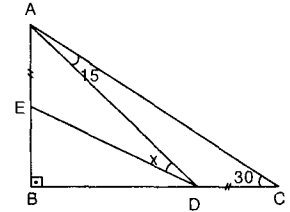
$[AB] \perp [BC]$,
 $|AE| = |DC|$,

$$m(\angle ACB) = 30^\circ$$
 ve

$$m(\angle DAC) = 15^\circ$$
 ise

$m(\angle ADE) = x$ kaç derecedir?

- A) 15 B) 20 C) 25 D) 30 E) 45



18. ABC üçgeninde

$$m(\angle ABD) = 20^\circ,$$

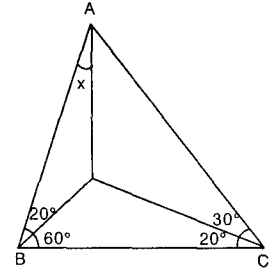
$$m(\angle DBC) = 60^\circ,$$

$$m(\angle ACD) = 30^\circ$$
 ve

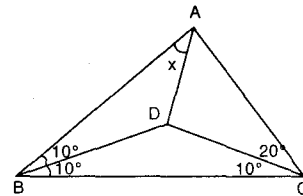
$$m(\angle DCB) = 20^\circ$$
 ise

$m(\angle BAD) = x$ kaç derecedir?

- A) 5 B) 10 C) 15 D) 20 E) 30



- 19.



ABC üçgeninde $m(\angle ACD) = 20^\circ$ ve

$$m(\angle ABD) = m(\angle DBC) = m(\angle DCB) = 10^\circ$$
 ise

$m(\angle BAD) = x$ kaç derecedir?

- A) 30 B) 40 C) 45 D) 50 E) 60

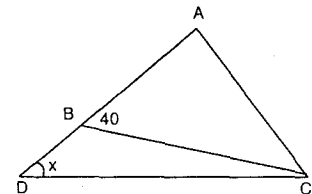
20. ABD üçgeninde

$|AB| = |AC|$
 $|BC| = |AD|$

$$m(\angle ABC) = 40^\circ$$

ise $m(\angle ADC)$ kaç derecedir?

- A) 35 B) 30 C) 25 D) 15 E) 10



ÇOKGEN ve DÖRTGENLER

BÖLÜM 2

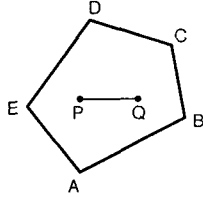
ÇOKGEN VE DÖRTGENLERDE GENEL ÖZELİKLER

ÇOKGENLER

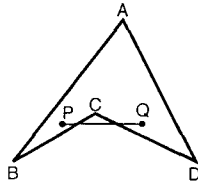
Düzlemde herhangi üçü doğrusal olmayan üç ya da daha fazla noktanın ikiser ikiser birleştirilmesiyle oluşan kapalı geometrik şekillere çokgen denir.

Çokgenler kenar sayılarına göre adlandırılırlar. Üçgen, dörtgen, beşgen..... gibi.

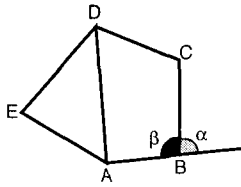
Bir çokgenin iç bölgesindeki herhangi iki nokta birleştirildiğinde meydana gelen doğru parçası daima çokgenin iç bölgesinde kalıyorsa böyle çokgenlere konveks (dışbükey), konveks olmayan çokgenlere ise konkav (içbükey) çokgen denir.



Konveks çokgen
(Dışbükey)



Konkav çokgen
(İçbükey)

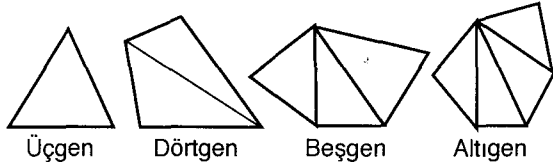


α : Dış açı
 β : İç açı
[AD] : Köşegen

Köşegen : Çokgende

komşu olmayan iki köşeyi birleştiren doğru parçasına köşegen denir.

Bir konveks çokgenin her bir iç açısı 180° den küçüktür.



Üçgen

Dörtgen

Beşgen

Altıgen

Kenar sayısı	Bir köşeden geçen köşegen sayısı	Oluşan üçgen sayısı
3	0	1
4	1	2
5	2	3
6	3	4
n	(n-3)	(n-2)

n kenarlı konveks bir çokgende;

1. İç açılar toplamı $(n-2) 180^\circ$ dir.

İçaçılar toplamı = üçgen sayısı x 180° dir.

2. Dış açılar toplamı sabit olup 360° dir.

3. Tüm iç ve dış açılar toplamı : $n \cdot 180^\circ$ dir.

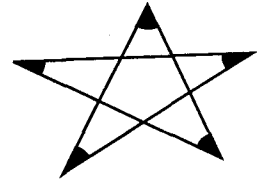
4. Köşegen sayısı :

$$\binom{n}{2} - n = \frac{n(n-3)}{2} \text{ dir.}$$

5. Bir köşeden $(n-3)$ köşegen çizilir. Bunlar $(n-2)$ tane üçgen oluşturur.

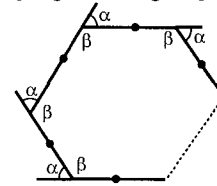
6. n kenarlı bir çokgenin belirli olabilmesi için $(2n-3)$ tane elemanın bilinmesi gerekir. Bunlardan en az $(n-2)$ tanesi uzunluk, en çok $(n-1)$ tanesi açıdır.

7. $n > 4$ olmak üzere n köşeli yıldızlı çokgenin köşelerindeki açılar toplamı; $(n-4) \cdot 180^\circ$ dir.



DÜZGÜN ÇOKGEN

Tüm kenarları ve tüm açıları eş olan dış bükey çokgene düzgün çokgen denir.



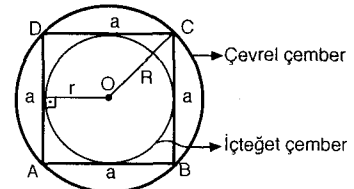
"n kenarlı düzgün çokgen"

n kenarlı düzgün çokgenin

1. Bir dış açısı : $\alpha = \frac{360^\circ}{n}$ dir.

2. Bir iç açısı : $\beta = \frac{(n-2) \cdot 180^\circ}{n}$ dir.

3.



Düzgün çokgenin çevresi bir kenarı ile kenar sayısının çarpımına eşittir.

$\Ç = n \cdot a$ dir.

4. Düzgün çokgenin iç teğet çemberinin yarıçapına Apotemi denir.

5. Düzgün çokgenin alanı, kenar sayısı, bir kenarı ve apoteminin çarpımının yarısına eşittir.

$$S = \frac{\frac{Ç}{2} \cdot n \cdot a \cdot r}{2} = \frac{Ç \cdot r}{2} = \frac{2u \cdot r}{2} = u \cdot r \text{ dir.}$$

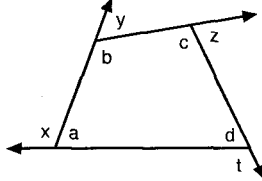
6. Düzgün çokgenin alanı $S = \frac{n}{2} \cdot R^2 \cdot \sin \frac{360}{n}$ dir.
7. Düzgün bir çokgenin çevrel çemberinin ve içteğet çemberinin merkezi aynıdır.

DÖRTGENLERİN GENEL ÖZELİKLERİ

1. Bir dörtgenin iç ve dış açılarının ölçüleri toplamı 360° dir.

$$a + b + c + d = 360^\circ$$

$$x + y + z + t = 360^\circ$$



2. Bir dörtgende ardışık iki açının açıortayları arasında oluşan açı, diğer iki açının toplamının yarısına eşittir.

$$m(\hat{\alpha}) = \frac{m(\hat{C}) + m(\hat{D})}{2}$$

dir.

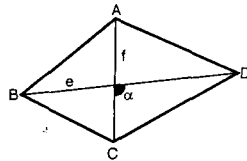
3. Bir dörtgende karşılıklı iki açının açıortayları arasında oluşan dar açı, diğer iki açının mutlak farkının yarısına eşittir.

$$m(\hat{\alpha}) = \frac{|m(\hat{B}) - m(\hat{D})|}{2}$$

dir.

4. Köşegen uzunlukları e, f, köşegenleri arasındaki açısı α olan bir konveks dörtgenin alanı;

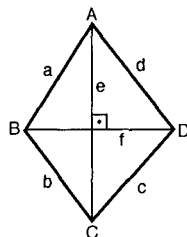
$$A(ABCD) = \frac{e \cdot f \cdot \sin \alpha}{2} \text{ dir.}$$



5. Köşegenleri dik kesişen bir konveks dörtgende;

$$i) a^2 + c^2 = b^2 + d^2$$

$$ii) A(ABCD) = \frac{e \cdot f}{2} \text{ dir.}$$



6. Bir konveks dörtgende kenarların orta noktaları

P, Q, R, T ise;

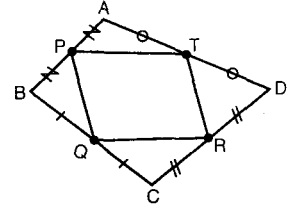
- i) PQRT dörtgeni paralelkenardır.

$$ii) A(PQRT) = \frac{A(ABCD)}{2} \text{ dir.}$$

- iii) ABCD dörtgeninde köşegenler eşit ise PQRT eşkenar dörtgendir.

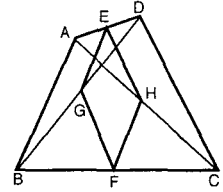
- iv) ABCD dörtgeninde köşegenler dik ise PQRT dikdörtgendir.

- v) ABCD dörtgeninde köşegenler hem eşit ve hem de dik ise PQRT karedir.

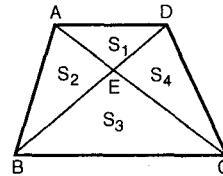


7. Köşegenleri birbirini ortalamayan dörtgenlerde köşegenlerin orta noktaları ile karşı kenarların orta noktalarını birleştiren dörtgen paralelkenardır.

E, F, G, H üzerinde bulundukları doğru parçalarının orta noktaları ise EGFH bir paralelkenardır.



- 8.



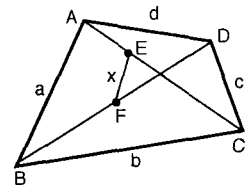
$$\left. \begin{aligned} \frac{S_1}{S_4} &= \frac{|AE|}{|EC|} \\ \frac{S_2}{S_3} &= \frac{|AE|}{|EC|} \end{aligned} \right\} \Rightarrow \frac{S_1}{S_4} = \frac{S_2}{S_3} \Rightarrow S_1 \cdot S_3 = S_2 \cdot S_4$$

olur.

Köşegenlerin meydana getirdiği alanların karşılıklı çarpımları eşittir.

9. Bir konveks dörtgende kenar uzunlukları a, b, c, d köşegen uzunlukları e, f, köşegenlerin orta noktalarını birleştiren doğru parçasının uzunluğu x olmak üzere;

$$a^2 + b^2 + c^2 + d^2 = e^2 + f^2 + 4x^2 \text{ dir.}$$



PARALELKENAR

Karşılıklı kenarları paralel ve eşit olan dörtgene paralelkenar denir.

1. i) Karşılıklı açıları eşittir.

$$m(\hat{A}) = m(\hat{C}) = \alpha$$

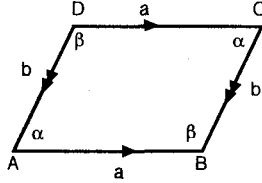
$$m(\hat{B}) = m(\hat{D}) = \beta \text{ dir.}$$

- ii) Komşu açıları bütünlerdir.

$$m(\hat{A}) + m(\hat{B}) = \alpha + \beta = 180^\circ$$

$$m(\hat{C}) + m(\hat{D}) = \alpha + \beta = 180^\circ \text{ dir.}$$

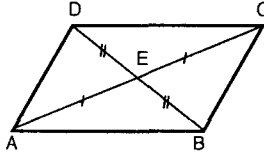
- iii) Çevre (ABCD) = $2(a + b)$ dir.



2. Köşegenler birbirlerini ortalarlar.

$$IAEI = ICEI$$

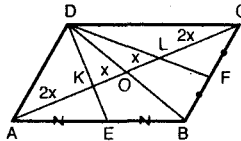
$$IBEI = IDEI \text{ dir.}$$



3. Bir paralelkenarda bir köşeyi karşı iki kenarın orta noktalarına birleştiren doğru parçaları köşegeni uzunlukça üç eş parçaya bölerler.

$$IAKI = IKLI = LCI = \frac{IACI}{3}$$

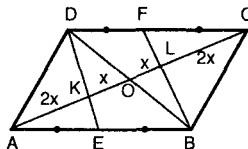
$$IOKI = IOLI = \frac{IACI}{6} \text{ dir.}$$



4. Bir paralelkenarda karşı iki köşeyi karşı iki eş kenarın orta noktalarına birleştiren doğru parçaları köşegeni uzunlukça üç eş parçaya bölerler.

$$IAKI = IKLI = LCI = \frac{IACI}{3}$$

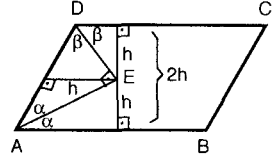
$$IOKI = IOLI = \frac{IACI}{6} \text{ dir.}$$



5. Komşu iki açının açıortayları birbirine diktir.

$$2\alpha + 2\beta = 180^\circ$$

$$\alpha + \beta = 90^\circ \text{ dir.}$$

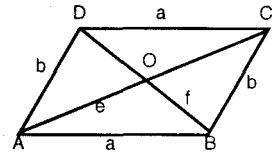


6. Bir paralelkenarda kenar uzunlukları ile köşegen uzunlukları arasında;

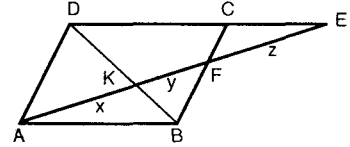
$$IACI = e,$$

$$IBDI = f \text{ ise}$$

$$e^2 + f^2 = 2(a^2 + b^2) \text{ bağıntısı vardır.}$$



- 7.



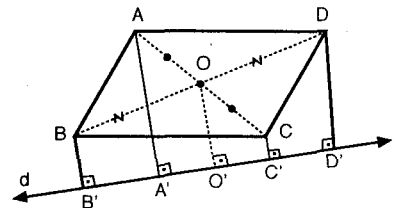
$$\triangle AKB \sim \triangle EKD$$

$$\triangle BKF \sim \triangle DKA \text{ benzerliklerinden}$$

$$IAKI^2 = IKFI \cdot IKEI$$

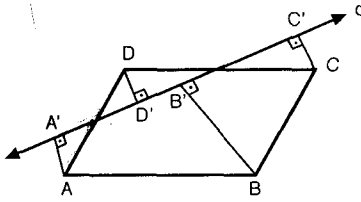
$$x^2 = y(y + z) \text{ bağıntısı elde edilir.}$$

8. Bir paralelkenarın düzleminde alınacak olan bir doğruya karşılıklı köşelerden inilen dikmelerin uzunlukça toplamaları aralarında eşittir.



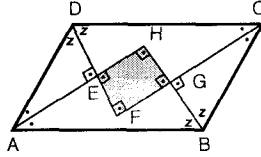
$$IAA' + ICC' = IBB' + IDD' = 2IOO' \text{ dir.}$$

9.

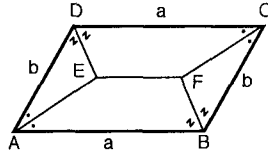


d doğrusu paralelkenarı kesiyorsa;
 $IAA'I + ICC'I = IBB'I - IDD'I$ dır.

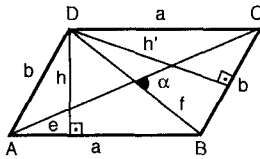
10. Açığortaylar arasında kalan EFGH bir dik-dörtgendir.



11. [AE], [DE]
 [CF] ve [BF]
 açıortaylar ise
 $IEFI = a - b$ dir.



12. PARALELKENARDA ALAN:

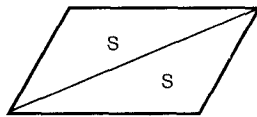


$A(ABCD) = a \cdot h = b \cdot h'$ dir.

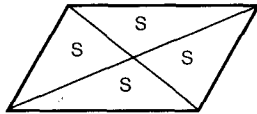
$A(ABCD) = a \cdot b \cdot \sin \hat{A} = a \cdot b \cdot \sin \hat{B}$ dir.

$A(ABCD) = \frac{e \cdot f \cdot \sin \alpha}{2}$ dir.

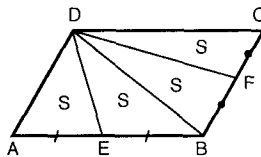
i) Köşegen alanı iki eşit parçaya böler.



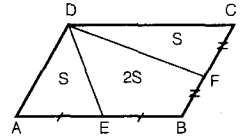
ii) Köşegenler alanı dört eşit parçaya bölerler.



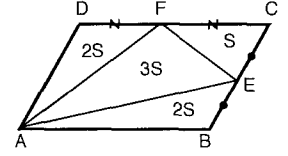
iii) E ile F orta noktalar ise alan dört eşit parçaya bölünür.



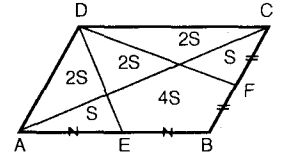
iv) $A(ABCD) = 2A(DEBF)$



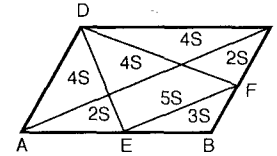
v) E ile F orta noktalar



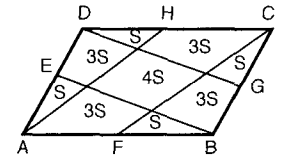
vi) E ile F orta noktalar



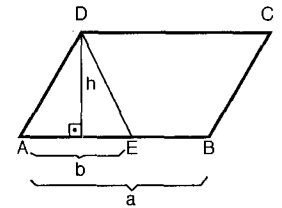
vii) E ile F orta noktalar



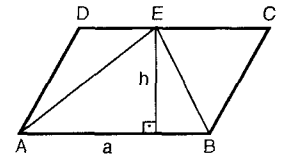
viii) E, F, G, H orta noktalar



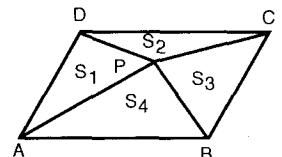
ix) $\frac{A(ADE)}{A(ABCD)} = \frac{b}{2a}$ dir.



x) $\frac{A(AEB)}{A(ABCD)} = \frac{1}{2}$



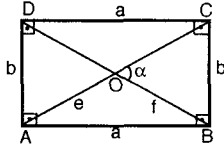
xi) P paralelkenarın içerisinde herhangi bir nokta ise $S_1 + S_3 = S_2 + S_4$ dir.



DİKDÖRTGEN

KARE

Karşılıklı kenarları eşit ve açıları dik olan paralelkenara dikdörtgen denir.



1. Paralelkenarın bütün özelliklerini taşır.

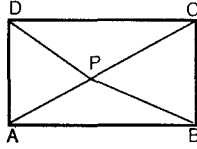
2. $A(ABCD) = a.b$

$$A(ABCD) = \frac{1}{2} e.f.\sin \alpha$$

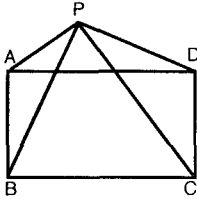
$$\Ç(ABCD) = 2(a + b)$$

3. $|AC| = |BD| = e = f = \sqrt{a^2 + b^2}$ dir.

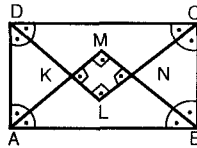
4. Dikdörtgenin iç bölgesinde bir nokta P ise;
 $|PA|^2 + |PC|^2 = |PB|^2 + |PD|^2$ dir.



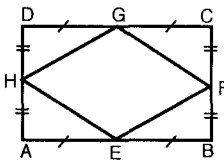
5. Dikdörtgenin dış bölgesinde bir nokta P ise;
 $|PA|^2 + |PC|^2 = |PB|^2 + |PD|^2$ dir.



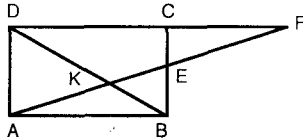
6. Bir dikdörtgende açortayların kesim noktaları bir karenin köşeleridir.
 $|KN| = |ML| = a - b$



7. E, F, G, H kenarların orta noktaları ise EFGH eşkenar dörtgendir.

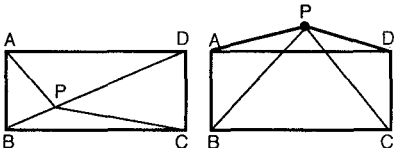


8. $|AK|^2 = |KE| \cdot |KF|$ dir.

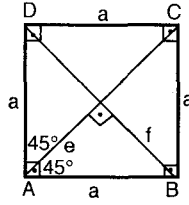


9. Dikdörtgen bir kirişler dörtgenidir.

10. Dikdörtgensel bir bölge içinde veya dışında alınan bir nokta dikdörtgenin köşeleriyle birleştirildiğinde;



$$|PA|^2 + |PC|^2 = |PB|^2 + |PD|^2 \text{ dir.}$$



Kenarları eşit ve açıları dik olan bir dikdörtgendir.

1. Paralelkenar ve dikdörtgenin bütün özelliklerini taşır.

2. $|AC| = |BD| = e = f = a\sqrt{2}$ dir.

3. $A(ABCD) = a^2$ veya

$$A(ABCD) = \frac{e^2}{2} \text{ dir.}$$

4. $\Ç(ABCD) = 4a$ dir.

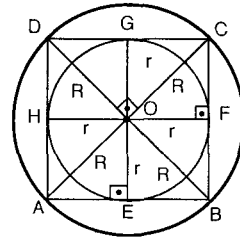
5. Köşegenler birbirine eşittirler.

6. Köşegenler birbirini dik ortalarlar.

7. Köşegenler aynı zamanda açortaydırlar.

8. Kenarların orta noktaları ikişer ikişer birleştirilirse meydana gelen konveks dörtgen karedir.

9.



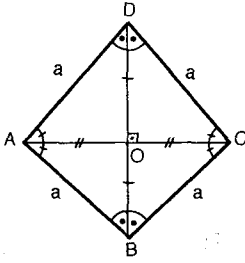
Karenin köşegenlerinin O kesim noktası, hem içteğet, hem de çevrel çemberin merkezidir. İçteğet çemberin yarıçapı $r = \frac{a}{2}$ ve çevrel çemberin yarı-

$$\text{çapı } R = \frac{a\sqrt{2}}{2} \text{ olur.}$$

10. Kare hem kirişler dörtgeni ve hem de teğetler dörtgenidir.

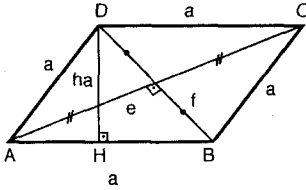
EŞKENAR DÖRTGEN

DELTOİT



Kenar uzunlukları eşit olan bir paralelkenardır.

1. Paralelkenarın bütün özelliklerini taşır.
2. Eşkenar dörtgende köşegenler birbirini dik ortalar.
 $[AC] \perp [BD]$
 $|OA| = |OC|$ ve
 $|OB| = |OD|$ dir.
3. Eşkenar dörtgende köşegenler açıortaylardır.
4. $|AC| = e$, $|BD| = f$ olmak üzere,



$$A(ABCD) = a \cdot ha \text{ dir.}$$

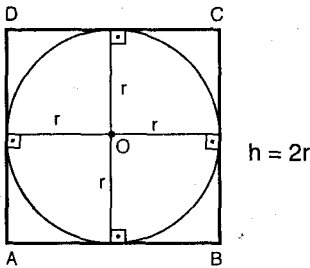
$$A(ABCD) = \frac{e \cdot f}{2} \text{ dir.}$$

$$A(ABCD) = a^2 \cdot \sin(\widehat{DAB}) \text{ dir.}$$

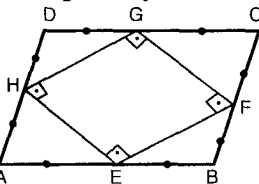
$$\widehat{C}(ABCD) = 4a \text{ dir.}$$

$$e^2 + f^2 = 4a^2 \text{ dir.}$$

5. Eşkenar dörtgen bir teğetler dörtgenidir.

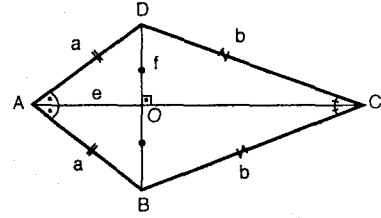


6. Eşkenar dörtgende kenarların orta noktaları birleştirilirse dikdörtgen oluşur.

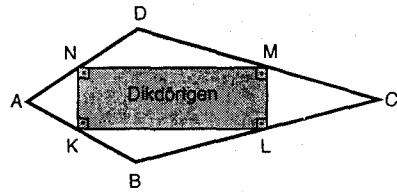


7. Bir eşkenar dörtgenin iç bölgesinde alınacak olan isteksel bir noktanın, tüm kenarlara olan uzaklıklarının toplamı yüksekliğin iki katı kadardır.

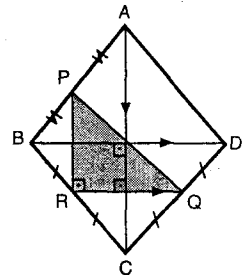
Tabanları ortak olan farklı iki ikizkenar üçgenden meydana gelen konveks dörtgendir.



1. $|AB| = |AD|$
 $|BC| = |DC|$ dir.
2. Köşegenler birbirine diktir.
 $[AC] \perp [BD]$
 $e \perp f$ dir.
3. $[AC]$ köşegeni açıortay ve $|OB| = |OD|$ dir.
4. $\widehat{A(ABC)} = \widehat{A(ADC)}$ dir.
5. $A(ABCD) = \frac{e \cdot f}{2}$ dir.
6. Deltoitte kenarların orta noktaları ikişer ikişer birleştirilirse meydana gelen konveks dörtgen dikdörtgendir.

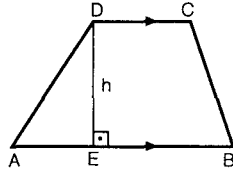


7. ABCD deltoitinde
 $|AC| = 16 \text{ cm}$ ve
 $|BD| = 12 \text{ cm}$ ise
 $|PQ|$ kaç cm dir?
 Deltoitte köşegenler birbirine diktir. $[BC]'$ 'nin ortası R ise
 $[QR] \parallel [BD]$ ve
 $|QR| = \frac{|BD|}{2}$ olacağından
 $|QR| = 6 \text{ cm}$ dir.
 $[PR] \parallel [AC]$ ve
 $|PR| = \frac{|AC|}{2} = 8 \text{ cm}$ dir. Köşegenlerin dikliği paralelliklerle taşındığında $m(\widehat{PRQ}) = 90^\circ$ olurki PRQ dik üçgeninden
 $|PQ| = 10 \text{ cm}$ elde edilir.

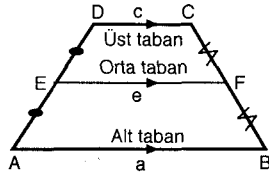


YAMUK

Karşılıklı iki kenarı paralel olan dörtgene yamuk denir. $[AB] \parallel [CD]$ dir. Paralel olan kenarlara tabanlar, diğerlerine de yan kenarlar denir.



Yan kenarların orta noktalarını birleştiren doğru parçasına orta taban denir.



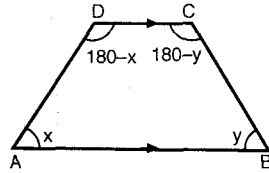
Orta taban alt ve üst tabanlara paraleldir.

$[EF] \parallel [AB] \parallel [CD]$ dir.

1. Yamukta $[AB] \parallel [CD]$ olduğundan

$$m(\hat{A}) + m(\hat{D}) = 180^\circ$$

$$m(\hat{B}) + m(\hat{C}) = 180^\circ \text{ dir.}$$



2. Yamukta orta taban yüksekliği ve köşegenleri ortalar.

$$IDH'I = IHH'I,$$

$$IAKI = IKCI \text{ ve}$$

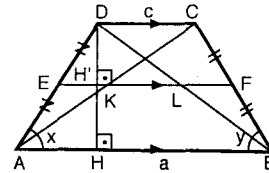
$$IBLI = IDLI \text{ dir.}$$

$$IEKI = ILFI = \frac{c}{2} \text{ dir.}$$

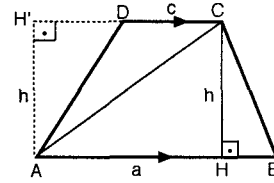
$$IEFI = \frac{a+c}{2} \text{ dir.}$$

$$IKLI = \frac{|a-c|}{2} \text{ dir.}$$

$$IELI = IFKI = \frac{a}{2} \text{ dir.}$$



3.



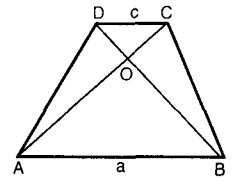
$$A(ABCD) = A(\triangle ABC) + A(\triangle ACD)$$

$$A(ABCD) = \frac{a \cdot h}{2} + \frac{c \cdot h}{2} = \frac{(a+c) \cdot h}{2} = IEFI \cdot h \text{ dir.}$$

4. Köşegenler birbirini tabanları oranında böler.

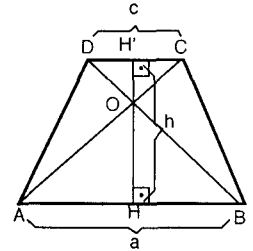
$$\triangle DOC \sim \triangle BOA \text{ olup}$$

$$\frac{|OC|}{|OA|} = \frac{|OD|}{|OB|} = \frac{c}{a} \text{ dir.}$$



5. $|OH'I| = \frac{c \cdot h}{a+c}$

$$\text{ve } |OHI| = \frac{a \cdot h}{a+c} \text{ dir.}$$



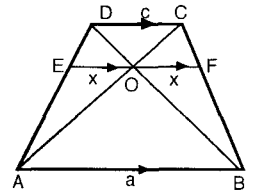
6. $[EF] \parallel [AB] \parallel [CD]$

$$\frac{1}{x} = \frac{1}{a} + \frac{1}{c}$$

$$x = \frac{a \cdot c}{a+c}$$

$$|EFI| = 2x = \frac{2ac}{a+c} \text{ dir.}$$

(Harmonik orta)



7. $A(\triangle ADB) = A(\triangle ACB)$

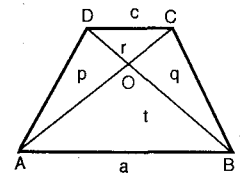
$$p+t=q+t \Rightarrow p=q \text{ dir.}$$

$$p \cdot q = r \cdot t \text{ olup}$$

$$p = q = \sqrt{rt} \text{ dir.}$$

$$A(ABCD) = (\sqrt{r} + \sqrt{t})^2$$

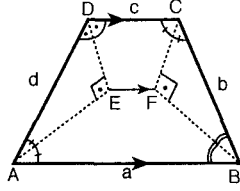
dir.



8. Bir yamukta dört açortay orta taban üzerinde dik kesişir.

$$|EF| = \frac{(a+c) - (b+d)}{2}$$

dir.

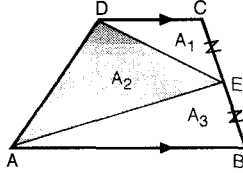


9. $|CE| = |EB|$ ise

$$\frac{A(\triangle ADE)}{A(ABCD)} = \frac{A_1}{2}$$

dir.

$$A_1 + A_3 = A_2 \text{ dir.}$$

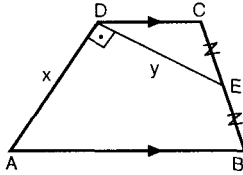


10. $|CE| = |EB|$,

$$|AD| = x \text{ ve}$$

$$|DE| = y \text{ ise}$$

$$A(ABCD) = x \cdot y \text{ dir.}$$



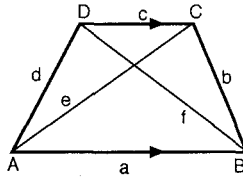
11. ABCD yamuğunda

$$|AC| = e \text{ ve}$$

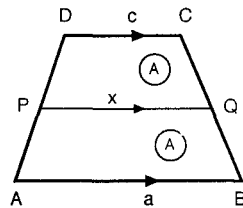
$$|BD| = f \text{ ise}$$

$$e^2 + f^2 = b^2 + d^2 + 2ac$$

dir.



12. [PQ], tabanlara paralel ve yamuğun alanını iki eşit parçaya ayırıyorsa, $|PQ| = x$ alındığında $2x^2 = a^2 + c^2$ olur.

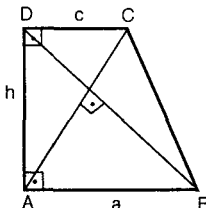


DİK YAMUK

Alt ve üst tabanları yan kenarlarından birine dik olan yamuğa dik yamuk denir.

Köşegenleri dik olan bir dik yamukta yükseklik, alt ve üst tabanın geometrik ortasıdır.

$$h^2 = a \cdot c \text{ dir.}$$



İKİZKENAR YAMUK

Yan kenarları eşit olan yamuğa ikizkenar yamuk denir.

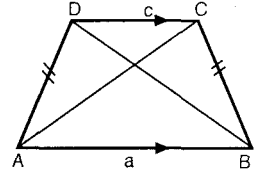
1. $|AD| = |BC|$

$$m(\hat{A}) = m(\hat{B})$$

$$m(\hat{C}) = m(\hat{D})$$

$$m(\hat{A}) + m(\hat{C}) = 180^\circ$$

dir.



2. Köşegenler birbirine eşittir.

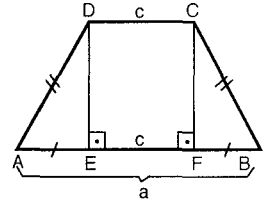
$$|AC| = |BD| \text{ dir.}$$

3. İkizkenar yamukta

$$\triangle ADE \cong \triangle BCF \text{ dir.}$$

$$|AE| = |BF| = \frac{a-c}{2}$$

dir.



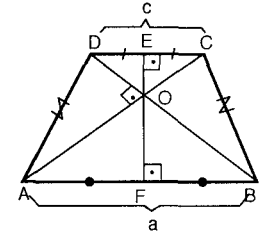
4. İkizkenar yamukta köşegenler dik ise

$$(|AC| \perp |BD|)$$

$$|OE| = \frac{c}{2}, |OF| = \frac{a}{2},$$

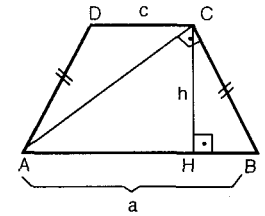
$$h = \frac{a+c}{2} \text{ ve}$$

$$A(ABCD) = h^2 \text{ dir.}$$



5. İkizkenar yamukta köşegenler yan kenarlara dik ise;

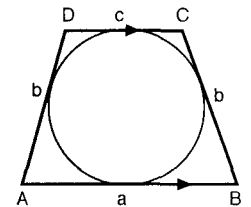
$$h = \frac{\sqrt{a^2 - c^2}}{2} \text{ dir.}$$



6. Bir ikizkenar yamukta kenarların orta noktaları ikişer ikişer birleştirilirse eşkenar dörtgen meydana gelir.

7. İkizkenar yamuk teğetler dörtgeni ise

$$a + c = 2b \text{ dir.}$$



ÇOKGEN VE DÖRTGENLERDE GENEL ÖZELİKLER

TEST

1

1. Bir konveks beşgenin dış açıları sırasıyla 1, 2, 3, 4, 5 ile orantılıdır. **Bu beşgenin en küçük iç açısı kaç derecedir?**

A) 40 B) 45 C) 50 D) 55 E) 60

2. Bir konveks altıgenin iç açıları sırasıyla 5, 6, 7, 8, 9, 10 ile orantılıdır. **Bu altıgenin en büyük dış açısı kaç derecedir?**

A) 80 B) 85 C) 90 D) 100 E) 110

3. 15 tane elemanı verilen çokgenin çizilebilmesi için bu elemanlardan en çok kaç tanesi açı olmalıdır?

A) 11 B) 10 C) 9 D) 8 E) 7

4. Köşegen sayısı 20 olan düzgün çokgenin bir iç açısı kaç derecedir?

A) 140 B) 135 C) 130 D) 125 E) 120

5. İç açıları toplamı 1800° olan konveks çokgenin köşegen sayısı kaçtır?

A) 54 B) 60 C) 63 D) 65 E) 68

6. İç açıları toplamı 900° olan düzgün çokgenin bir dış açısı kaç derecedir?

A) 72 B) 60 C) $\frac{360}{7}$ D) 45 E) 40

7. Köşegen sayısı kenar sayısına eşit olan konveks çokgenin çizilebilmesi için kaç elemanı bilinmelidir?

A) 6 B) 7 C) 8 D) 9 E) 10

8. Bir konveks altıgenin en az kaç iç açısı geniş açıdır?

A) 2 B) 3 C) 4 D) 5 E) 6

9. Çevresi 40 br olan düzgün çokgenin alanı 120 br^2 ise bu çokgenin iç teğet çemberinin yarıçapı kaç br'dir?

A) 3 B) 4 C) 5 D) 6 E) 7

10. 7 doğru düzlemi en çok kaç bölgeye ayırır?

A) 27 B) 28 C) 29 D) 30 E) 31

11. Bir çokgenin köşegen sayısı aşağıdakilerden hangisi olabilir?

A) 12 B) 13 C) 14 D) 15 E) 16

12. Köşegen sayısı 24 ile 29 arasında olan düzgün çokgenin bir dış açısı kaç derecedir?

A) 36 B) 40 C) 45 D) 60 E) 72

13. Bir dış açısı 40° ile 50° arasında olan düzgün çokgenin bir köşesinden kaç köşegen çizilebilir?

A) 5 B) 6 C) 7 D) 8 E) 9

14. Dış açıları tamsayı olan düzgün çokgenlerin kenar sayıları kaç farklı değer alabilir?

A) 18 B) 19 C) 20 D) 21 E) 22

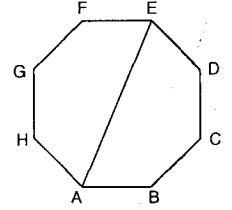
15. Bir kenarı 6 br olan düzgün altıgenin en kısa köşegeninin uzunluğu nedir?

A) 6 B) $6\sqrt{2}$ C) $6\sqrt{3}$ D) 12 E) 14

16. Bir kenarının uzunluğu 2 br olan düzgün altıgenin alanı nedir?

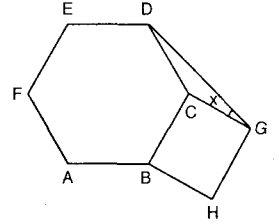
A) $6\sqrt{3}$ B) $8\sqrt{3}$ C) $9\sqrt{3}$
D) $12\sqrt{3}$ E) $15\sqrt{3}$

17. Şekildeki düzgün sekizgende $|AE| = 8\sqrt{2}$ br ise bu sekizgenin alanı nedir?



A) $32\sqrt{2}$ B) $48\sqrt{2}$ C) $60\sqrt{2}$
D) $64\sqrt{2}$ E) $80\sqrt{2}$

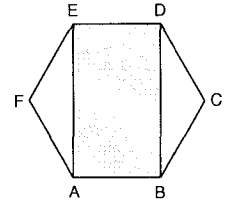
18. Şekilde ABCDEF düzgün altıgen, BHGC ise karedir. Buna göre



$m(\angle CGD) = x$ açısı kaç derecedir?

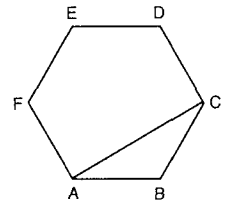
A) 10 B) 15 C) 20 D) 25 E) 30

19. Şekildeki düzgün altıgenin bir kenarı 6 br ise taralı alan nedir?



A) 36 B) $36\sqrt{3}$ C) $48\sqrt{3}$
D) $60\sqrt{3}$ E) $72\sqrt{3}$

20. Şekildeki düzgün altıgende $|AC| = 4\sqrt{3}$ br ise bu altıgenin çevresi kaç br'dir?



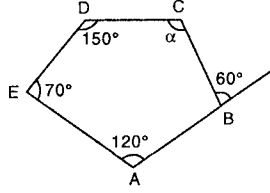
A) 20 B) 22 C) 23 D) 24 E) 30

ÇOKGEN VE DÖRTGENLERDE GENEL ÖZELİKLER

TEST

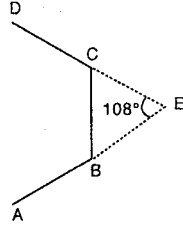
2

1. Şekildeki konveks beşgende verilenlere göre α kaç derecedir?



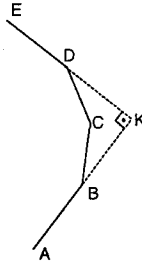
A) 50 B) 60 C) 70 D) 80 E) 90

2. Şekilde düzgün bir çokgenin ardışık üç kenarı çizilmiştir. D, C, E ve A, B, E doğrusal ve $m(\widehat{BEC}) = 108^\circ$ ise bu çokgenin köşegen sayısı kaçtır?



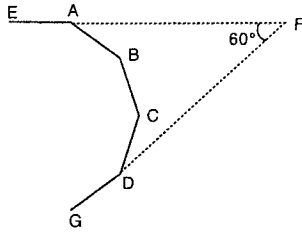
A) 35 B) 27 C) 20 D) 14 E) 9

3. Şekilde düzgün bir çokgenin ardışık dört kenarı çizilmiştir. E, D, K ve A, B, K doğrusal ve $m(\widehat{BKD}) = 90^\circ$ ise bu çokgenin bir köşesinden kaç köşegen çizilebilir?



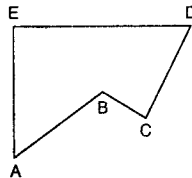
A) 6 B) 7 C) 8 D) 9 E) 10

4. Şekilde bir düzgün çokgenin ardışık 5 kenarı verilmiştir. E, A, F ve G, D, F doğrusal $m(\widehat{AFD}) = 60^\circ$ ise bu çokgenin kenar sayısı kaçtır?



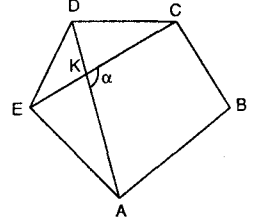
A) 6 B) 9 C) 12 D) 15 E) 24

5. Şekildeki konkav beşgenin iç açıları toplamı kaç derecedir?



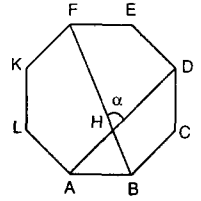
A) 540 B) 720 C) 900
D) 1080 E) 1260

6. ABCDE düzgün beşgeninde verilenlere göre $m(\widehat{CKA}) = \alpha$ kaç derecedir?



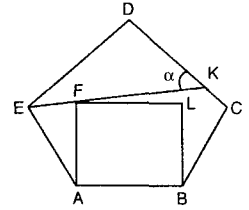
A) 90 B) 100 C) 108 D) 120 E) 135

7. ABCDEFKL düzgün sekizgeninde $m(\widehat{FHD}) = \alpha$ kaç derecedir?



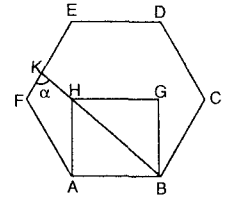
A) 30 B) 45 C) 60 D) 67,5 E) 90

8. Şekilde ABCDE düzgün beşgen ABLF ise karedir. E, F, K doğrusal ise $m(\widehat{FKD}) = \alpha$ kaç derecedir?



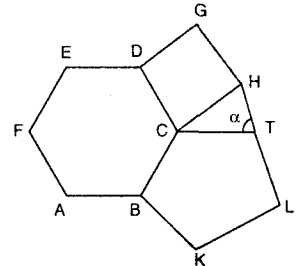
A) 19° B) 38° C) 40° D) 45° E) 60°

9. ABCDEF düzgün altıgen ABGH ise karedir. K, H, B noktaları doğrusal ise $m(\widehat{FKB}) = \alpha$ kaç derecedir?



A) 60 B) 75 C) 80 D) 90 E) 120

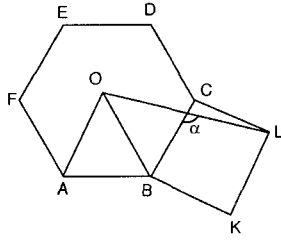
10. Şekilde [DC] düzgün altıgen ile karenin ortak kenarı, [BC] düzgün altıgenle düzgün beşgenin ortak kenarı ise



$m(\widehat{CTH}) = \alpha$ kaç derecedir?

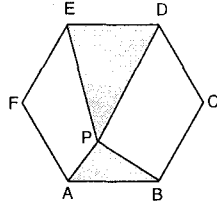
A) 60 B) 63 C) 69 D) 75 E) 90

11. Şekilde ABCDEF düzgün altıgen OAB eşkenar üçgen ve BKLC ise karedir. Buna göre α kaç derecedir?



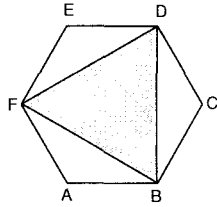
A) 100 B) 105 C) 120 D) 130 E) 135

12. P noktası ABCDEF düzgün altıgeninin içinde bir P noktası ise taralı alanın altıgenin alanına oranı nedir?



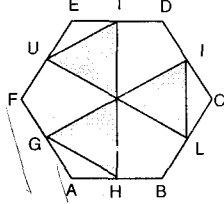
A) $\frac{2}{3}$ B) $\frac{1}{2}$ C) $\frac{3}{7}$ D) $\frac{1}{3}$ E) $\frac{1}{4}$

13. Şekildeki düzgün altıgenin bir kenarı 4 br ise taralı alan kaç br² dir?



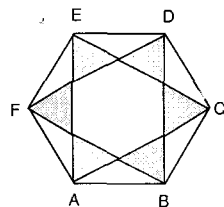
A) $24\sqrt{3}$ B) $18\sqrt{3}$ C) $15\sqrt{3}$
D) $12\sqrt{3}$ E) $6\sqrt{3}$

14. ABCDEF düzgün altıgeninde H, L, I, T, U, G bulundukları kenarların orta noktaları $|AB| = 12$ br ise taralı alan nedir?



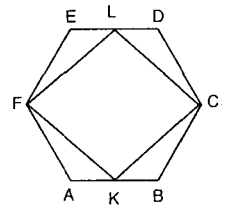
A) $36\sqrt{3}$ B) $45\sqrt{3}$ C) $60\sqrt{3}$
D) $81\sqrt{3}$ E) $162\sqrt{3}$

15. Şekildeki düzgün altıgenin bir kenarı 6 br ise taralı alanlar toplamı nedir?



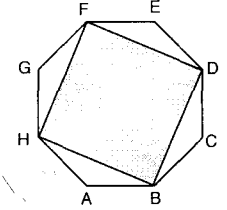
A) $6\sqrt{3}$ B) $14\sqrt{3}$ C) $12\sqrt{3}$
D) $16\sqrt{3}$ E) $18\sqrt{3}$

16. Şekilde ABCDEF düzgün altıgeninde K ve L bulundukları kenarların orta noktalarıdır. Buna göre $\frac{A(KCLF)}{A(ABCDEF)}$ oranı nedir?



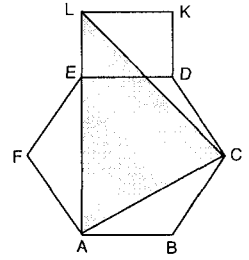
A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) $\frac{4}{5}$ D) $\frac{21}{25}$ E) $\frac{\sqrt{3}}{3}$

17. Şekildeki düzgün sekizgenin bir kenarı 4 br ise taralı alan nedir?



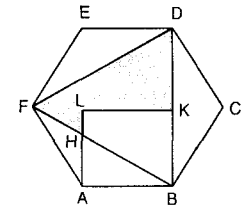
A) $32 - 16\sqrt{2}$ B) $40 - 16\sqrt{2}$
C) $64 - 16\sqrt{2}$ D) $32 + 16\sqrt{2}$
E) $40 + 16\sqrt{2}$

18. Şekilde ABCDEF düzgün altıgen EDKL ise karedir. $|AB| = 6$ br ise taralı alan nedir?



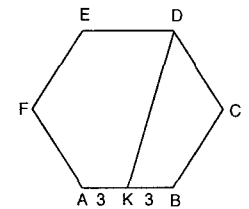
A) $36 + 9\sqrt{3}$ B) $30 + 9\sqrt{3}$
C) $36 + 6\sqrt{3}$ D) $27 + 27\sqrt{3}$
E) $27 + 6\sqrt{3}$

19. Şekildeki ABCDEF düzgün altıgen ABKL ise karedir. $|AH| = 2$ br ise taralı alan nedir?



A) $11\sqrt{3} - 8$ B) $11\sqrt{3} - 9$ C) $11\sqrt{3} - 10$
D) $11\sqrt{3} - 11$ E) $11\sqrt{3} - 12$

20. Şekildeki düzgün altıgende $|AK| = |KB| = 3$ br ise $|DK|$ kaç br dir?



A) $3\sqrt{13}$ B) $6\sqrt{3}$ C) $9\sqrt{6}$
D) $6\sqrt{13}$ E) $12\sqrt{3}$

ÇOKGEN VE DÖRTGENLERDE GENEL ÖZELİKLER

TEST

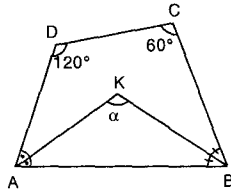
3

1. ABCD dörtgeninde [AK] ve [BK] açıortay

$$m(\hat{ADC}) = 120^\circ,$$

$$m(\hat{DCB}) = 60^\circ \text{ ise}$$

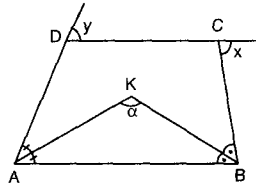
$m(\hat{AKB}) = \alpha$ kaç derecedir?



- A) 30 B) 45 C) 60 D) 75 E) 90

2. Şekildeki dörtgende [AK] ve [BK] açıortay $x^\circ + y^\circ = 130^\circ$ ise

$m(\hat{AKB}) = \alpha$ kaç derecedir?



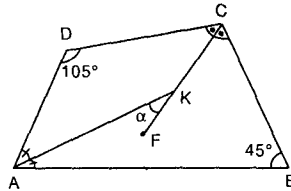
- A) 100 B) 105 C) 110 D) 115 E) 120

3. ABCD dörtgeninde [AK] ve [CF] açıortay

$$m(\hat{ABC}) = 45^\circ,$$

$$m(\hat{ADC}) = 105^\circ$$

ise $m(\hat{AKF}) = \alpha$ kaç derecedir?

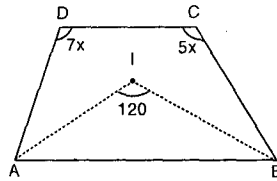


- A) 30 B) 40 C) 45 D) 50 E) 60

4. Şekildeki ABCD dörtgeninde I noktası iç teğet çemberin merkezi

$$m(\hat{ADC}) = 7x,$$

$$m(\hat{BCD}) = 5x \text{ ise } x \text{ kaç derecedir?}$$



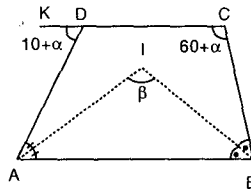
- A) 5 B) 10 C) 15 D) 20 E) 25

5. ABCD dörtgeninde [AI] ve [IB] açıortay

$$m(\hat{ADK}) = 10 + \alpha$$

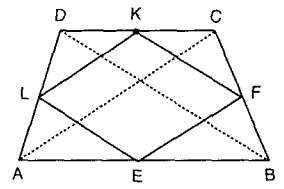
$$m(\hat{BCD}) = 60 + \alpha \text{ ise}$$

$m(\hat{AIB}) = \beta$ kaç derecedir?



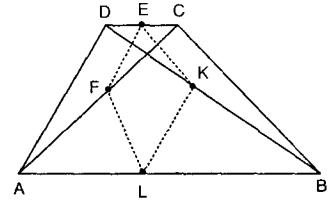
- A) 90 B) 95 C) 100 D) 110 E) 115

6. Şekildeki dörtgende E, F, K, L bulundukları kenarların orta noktaları ve $IDBI + IACI = 18$ br ise $\text{Ç}(\text{EFKL})$ kaç br'dir?



- A) 9 B) 12 C) 18 D) 24 E) 36

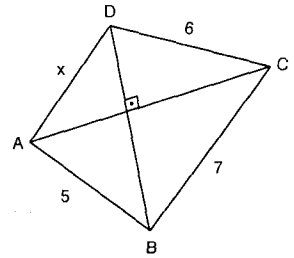
7. Şekildeki ABCD dörtgeninde L [AB]'nin, E [DC]'nin, K [DB]'nin, F [AC]'nin orta noktalarıdır.



$IA DI + IBCI = 24$ br ise EFKL dörtgeninin çevresi kaç br'dir?

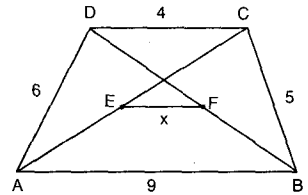
- A) 12 B) 18 C) 24 D) 30 E) 36

8. Köşegenleri dik kesişen şeklideki ABCD dörtgeninde $IA BI = 5$ br, $IB CI = 7$ br, $ID CI = 6$ br ise $IA DI = x$ nedir?



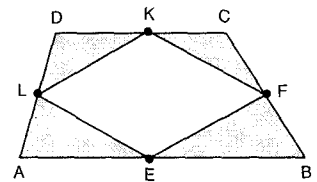
- A) 1 B) 2 C) 3 D) $2\sqrt{3}$ E) $4\sqrt{3}$

9. Şekildeki ABCD dörtgeninde E ve F sırasıyla [AC] ve [DB] nin orta noktaları $ID CI = 4$ br, $IB CI = 5$ br, $IA BI = 9$ br, $IA DI = 6$ br, $IB DI = 7$ br, $IA CI = 9$ br ise $IEFI = x$ kaç birimdir?



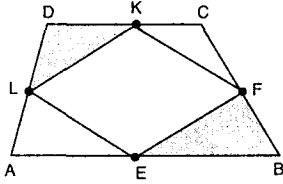
- A) $\sqrt{3}$ B) 2 C) $\sqrt{5}$ D) $\sqrt{6}$ E) $\sqrt{7}$

10. ABCD dörtgeninde E, F, K, L bulundukları kenarların orta noktaları ve taralı alanlar toplamı 28 br^2 ise $\text{A}(\text{EFKL})$ kaç br^2 dir?



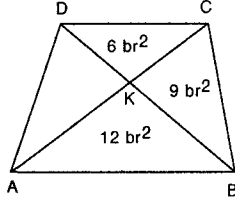
- A) 14 B) 28 C) 35 D) 42 E) 60

11. ABCD dörtgeninde E, F, K, L bulundukları kenarların orta noktaları ve taralı alanlar toplamı 10 br^2 ise $A(\text{EFKL})$ kaç br^2 'dir?



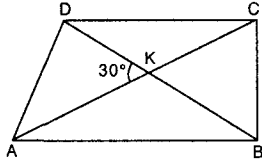
A) 10 B) 12 C) 14 D) 15 E) 20

12. Şekildeki ABCD dörtgeninde üçgensel bölgelerin alanları verilmiştir. Buna göre $A(\triangle AKD)$ kaç br^2 dir?



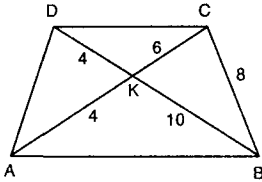
A) 7 B) 8 C) 12 D) 16 E) 18

13. Şekildeki ABCD dörtgeninde $IACI = 8 \text{ br}$, $IDBI = 6 \text{ br}$ ve $m(\angle AKD) = 30^\circ$ ise $A(\text{ABCD})$ kaç br^2 'dir?



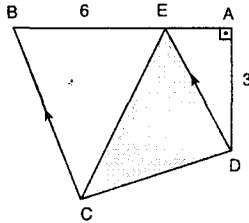
A) 6 B) 12 C) 18 D) 24 E) 30

14. Şekildeki ABCD dörtgeninde $IDKI = 4 \text{ br}$, $IKBI = 10 \text{ br}$, $IAKI = 4 \text{ br}$, $IKCI = 6 \text{ br}$, $IBCI = 8 \text{ br}$ ise $A(\text{ABCD})$ kaç br^2 'dir?



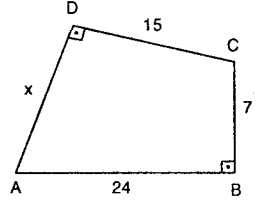
A) 28 B) 38 C) 48 D) 52 E) 56

15. ABCD dörtgeninde $[DE] \parallel [BC]$, $[AD] \perp [AB]$, $IADI = 3 \text{ br}$, $IEBI = 6 \text{ br}$ ise taralı alan kaç br^2 dir?



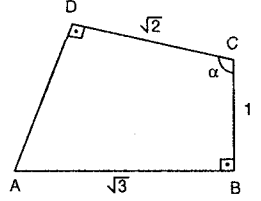
A) 18 B) 15 C) 12 D) 10 E) 9

16. ABCD dörtgeninde $[AB] \perp [BC]$, $[AD] \perp [DC]$, $IABI = 24 \text{ br}$, $IBCI = 7 \text{ br}$, $IDCI = 15 \text{ br}$ ise $IADI = x$ kaç br 'dir?



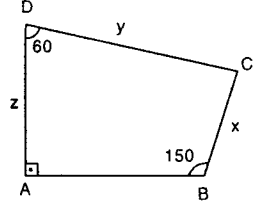
A) 12 B) 15 C) 18 D) 20 E) 21

17. ABCD dörtgeninde $IABI = \sqrt{3} \text{ br}$, $IBCI = 1 \text{ br}$, $IDCI = \sqrt{2} \text{ br}$ ise $m(\angle DCB) = \alpha$ kaç derecedir?



A) 75 B) 90 C) 105 D) 120 E) 135

18. Şekildeki ABCD dörtgeninde $[AD] \perp [AB]$, $m(\angle ADC) = 60^\circ$, $m(\angle ABC) = 150^\circ$, $IBCI = x \text{ br}$, $IDCI = y \text{ br}$, $IADI = z \text{ br}$ ise z 'nin x, y cinsinden değeri aşağıdakilerden hangisidir?

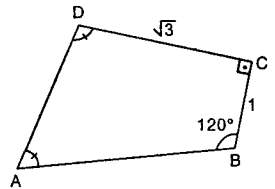


A) $z = \sqrt{3}(x+y)$ B) $z = \sqrt{2}(x+y)$

C) $z = x+y$ D) $z = \frac{x+y}{2}$

E) $z = \frac{x+y}{\sqrt{3}}$

19. ABCD dörtgeninde $m(\hat{A}) = m(\hat{D})$, $m(\angle ABC) = 120^\circ$, $[DC] \perp [BC]$, $IDCI = \sqrt{3} \text{ br}$, $IBCI = 1 \text{ br}$ ise $IADI$ nedir?

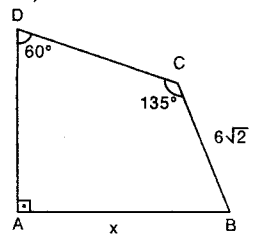


A) $\sqrt{6}(\sqrt{3}-1)$ B) $2\sqrt{3}(\sqrt{3}-1)$

C) $\sqrt{3}(\sqrt{3}+1)$ D) $2\sqrt{3}(\sqrt{3}+1)$

E) $3\sqrt{3}(\sqrt{3}+1)$

20. ABCD dörtgeninde $\frac{IDCI}{IADI} = \frac{1}{2}$ ve $IBCI = 6\sqrt{2} \text{ br}$, $m(\angle ADC) = 60^\circ$, $m(\angle DCB) = 135^\circ$, $[AD] \perp [AB]$ ise $IABI = x$ kaç br 'dir?



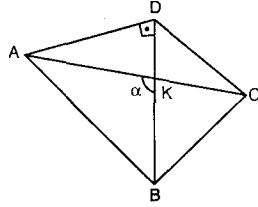
A) $4\sqrt{3}$ B) $5\sqrt{3}$ C) $6\sqrt{3}$

D) $7\sqrt{3}$ E) $8\sqrt{3}$

ÇOKGEN VE DÖRTGENLERDE GENEL ÖZELİKLER

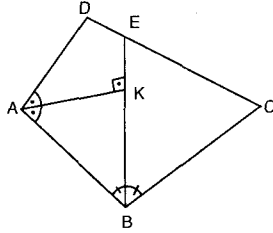
TEST 4

1. Şekilde ABD ikizkenar dik üçgen DBC eşkenar üçgen ise $m(\widehat{AKB}) = \alpha$ kaç derecedir?



A) 100 B) 105 C) 110 D) 115 E) 120

2. Şekildeki ABCD dörtgeninde [AK] ve [BE] açıortay doğruları ve $[EB] \perp [AK]$ dir.

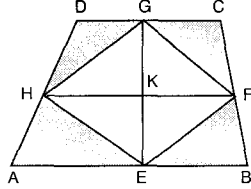


$$m(\widehat{D}) - m(\widehat{C}) = 80^\circ$$

ise $m(\widehat{C})$ kaç derecedir?

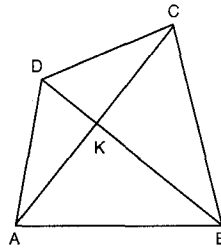
A) 50 B) 70 C) 90 D) 110 E) 130

3. ABCD dörtgeninde E, F, G, H bulundukları kenarların orta noktaları ve $A(\widehat{EKF}) = 3 \text{ br}^2$ ise taralı alanlar toplamı kaç br^2 dir?



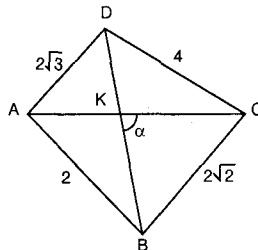
A) 6 B) 9 C) 12 D) 15 E) 18

4. Şekildeki ABCD dörtgeninde $\frac{|KC|}{|AK|} = \frac{2}{3}$ ve $A(\widehat{DAB}) = 12 \text{ br}^2$ ise $A(\widehat{DCB})$ kaç br^2 dir?



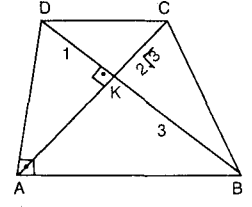
A) 4 B) 5 C) 6 D) 7 E) 8

5. Şekildeki ABCD dörtgeninde $|AB| = 2 \text{ br}$, $|BC| = 2\sqrt{2} \text{ br}$, $|CD| = 4 \text{ br}$, $|DA| = 2\sqrt{3} \text{ br}$ ise $m(\widehat{BKC}) = \alpha$ kaç derecedir?



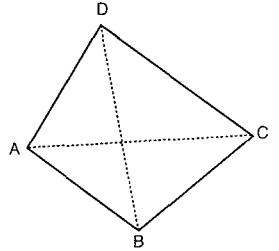
A) 60 B) 75 C) 90 D) 100 E) 120

6. ABCD dörtgeninde $[AD] \perp [AB]$, $[AK] \perp [DB]$, $|BK| = 3 \text{ br}$, $|KD| = 1 \text{ br}$ ise $|KC| = 2\sqrt{3} \text{ br}$ ise $A(\widehat{ABCD})$ nedir?



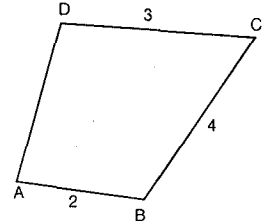
A) $3\sqrt{3}$ B) $4\sqrt{3}$ C) $5\sqrt{3}$ D) $6\sqrt{3}$ E) $7\sqrt{3}$

7. Şekildeki ABCD dörtgeninde $|AC| = 3 \text{ br}$, $|BD| = 4 \text{ br}$ ise ABCD dörtgenin alanı en fazla kaç br^2 dir?



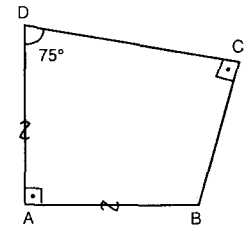
A) 4 B) 5 C) 6 D) $3\sqrt{6}$ E) $6\sqrt{3}$

8. Şekilde ABCD dörtgeninde $|AB| = 2 \text{ br}$, $|DC| = 3 \text{ br}$, $|BC| = 4 \text{ br}$ ise $A(\widehat{ABCD})$ en fazla kaç br^2 dir?



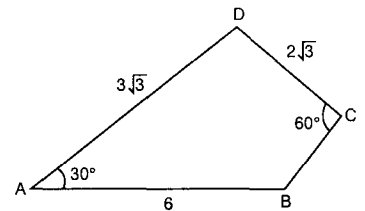
A) 9 B) 10 C) 11 D) 12 E) 13

9. Şekildeki ABCD dörtgeninde $m(\widehat{A}) = m(\widehat{C}) = 90^\circ$ ve $m(\widehat{D}) = 75^\circ$, $|AD| = |AB|$ ise $\frac{|DC|}{|DA|}$ oranı nedir?



A) 2 B) $\frac{3}{2}$ C) $\frac{\sqrt{6}}{2}$ D) $\frac{\sqrt{3}}{2}$ E) $\frac{\sqrt{3}}{3}$

10. ABCD dörtgeninde $m(\widehat{A}) = 30^\circ$, $m(\widehat{C}) = 60^\circ$, $|AB| = 6 \text{ br}$, $|CD| = 2\sqrt{3} \text{ br}$, $|AD| = 3\sqrt{3} \text{ br}$ ise $A(\widehat{ABCD})$ nedir?



A) $7\sqrt{3}$ B) $\frac{15\sqrt{3}}{2}$ C) $6\sqrt{3}$
D) $\frac{17\sqrt{3}}{2}$ E) $9\sqrt{3}$

11. Şekildeki ABCD dörtgeninde

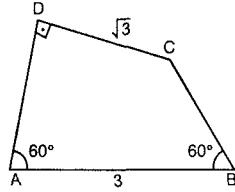
$$m(\hat{A}) = m(\hat{B}) = 60^\circ,$$

$$m(\hat{D}) = 90^\circ$$

$$IDCI = \sqrt{3} \text{ br},$$

$$IABI = 3 \text{ br ise}$$

IADI + IBCI kaç br dir?



- A) 2 B) 3 C) 4 D) 5 E) 6

12. Şekildeki ABCD dörtgeninde

$$[AD] \perp [AE],$$

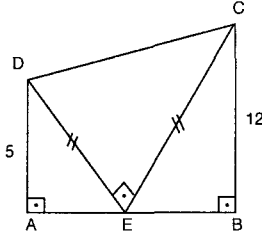
$$[EB] \perp [BC],$$

$$IADI = 5 \text{ br},$$

$$IBCI = 12 \text{ br},$$

$$IDEI = IEIC \text{ ise}$$

IDCI nedir?



- A) 14 B) 20 C) 26
D) $13\sqrt{2}$ E) $13\sqrt{3}$

13. ABCD dörtgeninde

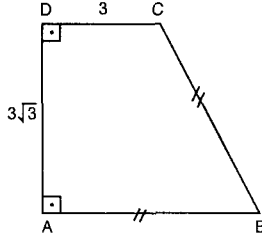
$$m(\hat{A}) = m(\hat{D}) = 90^\circ,$$

$$IABI = IBCI$$

$$IADI = 3\sqrt{3} \text{ br},$$

$$IDCI = 3 \text{ br ise}$$

IBCI kaç br dir?



- A) 3 B) 4 C) 5 D) 6 E) 7

14. ABCD dörtgeninde

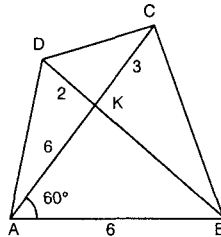
$$m(\hat{KAB}) = 60^\circ,$$

$$IAKI = IABI = 6 \text{ br}$$

$$IDKI = 2 \text{ br},$$

$$IKCI = 3 \text{ br ise}$$

A(ABCD) nedir?



- A) $17\sqrt{3}$ B) $18\sqrt{3}$ C) $19\sqrt{3}$
D) $20\sqrt{3}$ E) $21\sqrt{3}$

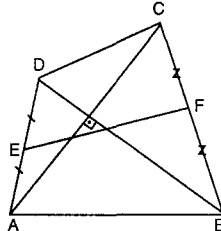
15. ABCD dörtgeninde E ve F orta noktalar

$$[AC] \perp [BD]$$

$$IACI = 8 \text{ br}$$

$$IBDI = 6 \text{ br ise}$$

IEFI kaç br dir?



- A) 4 B) 5 C) 6 D) 7 E) 8

16. Şekilde $[DC] \parallel [AB]$

L, E, F, K sırasıyla

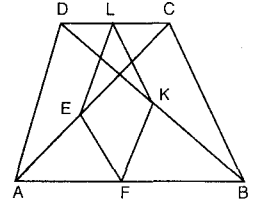
$[DC]$, $[AC]$, $[AB]$,

$[DB]$ nin

orta noktalarıdır.

$$IABI = 2IDCI \text{ ise}$$

$\frac{A(EFKL)}{A(ABCD)}$ nedir?



- A) $\frac{1}{8}$ B) $\frac{1}{7}$ C) $\frac{1}{6}$ D) $\frac{1}{5}$ E) $\frac{1}{3}$

17. Şekilde ABCD dörtgeninde G, F, H, E

sırasıyla

$[AB]$, $[DB]$,

$[DC]$, $[AC]$ nin

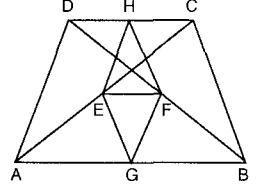
orta noktaları

$[DC] \parallel [AB]$

$$IADI = 6 \text{ br}, IBCI = 8 \text{ br ve}$$

$$IABI - IDCI = 10 \text{ br ise}$$

A(EGFH) kaç br² dir?



- A) 6 B) 8 C) 12 D) 16 E) 24

18. Şekildeki ABCD

dörtgeninde

E, K, F, H

sırasıyla $[AB]$,

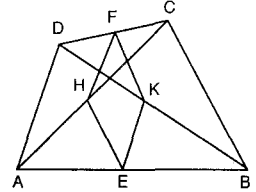
$[DB]$, $[DC]$,

$[AC]$ nin orta

noktaları ve

$$IADI = IBCI \text{ ise}$$

EKFH dörtgeni kesinlikle aşağıdakilerden hangisidir?



- A) Kare B) Dikdörtgen C) Deltoid
D) Eşkenar dörtgen E) Yamuk

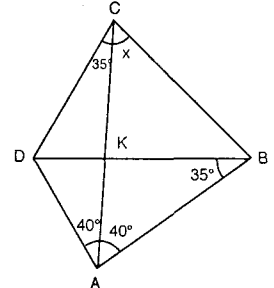
19. ABCD dörtgeninde

$$m(\hat{DAK}) = m(\hat{KAB}) = 40^\circ$$

$$\text{ve } m(\hat{DCA}) = m(\hat{DBA}) = 35^\circ$$

ise x kaç derecedir?

- A) 65 B) 60
C) 55 D) 50
E) 45



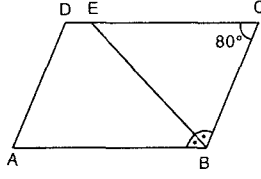
20. Aşağıda verilen dörtgenlerin hangisinin sıralamasında bir dörtgen kendinden önceki tüm dörtgenlerin özelliklerini sağlar?

- A) Yamuk, paralelkenar, kare, eşkenar dörtgen
B) Deltoid, paralelkenar, eşkenar dörtgen, kare
C) Yamuk, paralelkenar, kare, deltoit
D) Yamuk, paralelkenar, eşkenar dörtgen, kare
E) Yamuk, dikdörtgen, kare, deltoit

PARALELKENAR

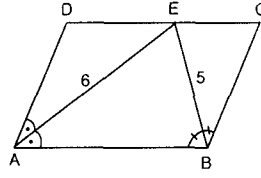
TEST 1

1. Şekilde ABCD paralelkenarında verilenlere göre $\frac{|AD|}{|EC|}$ oranı nedir?



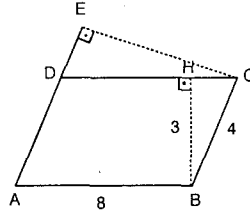
- A) 1 B) $\frac{3}{4}$ C) $\frac{2}{3}$ D) $\frac{5}{9}$ E) $\frac{1}{2}$

2. Şekilde ABCD paralelkenar [AE] ve [EB] açıortay $|AE| = 6$ br, $|EB| = 5$ br ise $A(\triangle AEB)$ kaç br² dir?



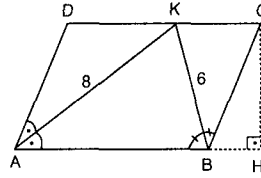
- A) 14 B) 15 C) 16 D) 17 E) 18

3. Şekildeki ABCD paralelkenarında verilenlere göre $|EC|$ kaç br'dir?



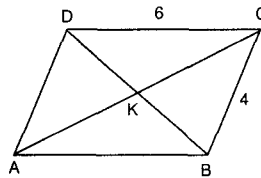
- A) 3 B) 4 C) 5 D) 6 E) 7

4. ABCD paralelkenarında [AK] ve [BK] açıortay $|AK| = 8$ br $|KB| = 6$ br ise [AB] ye ait yükseklik olan $|CH|$ kaç br'dir?



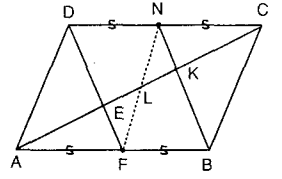
- A) 4 B) 4,2 C) 4,8 D) 5 E) 5,2

5. ABCD paralelkenarında $|DC| = 6$ br, $|BC| = 4$ br $|AK| = 3$ br ise $|DK|$ nedir?



- A) $\sqrt{15}$ B) 4 C) $\sqrt{17}$ D) $3\sqrt{2}$ E) $\sqrt{19}$

6. ABCD paralelkenarında verilenlere göre aşağıdakilerden kaç tanesi doğrudur?



- I. $|AE| = |EK| = |KC|$
II. $\frac{|NK|}{|KB|} = \frac{1}{2}$

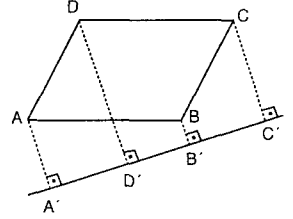
III. $\frac{A(\triangle AEF)}{A(\triangle EFBK)} = \frac{1}{3}$

IV. $\frac{A(\triangle AEF)}{A(\triangle DEA)} = \frac{1}{2}$

V. $|NL| = |LF|$

- A) 1 B) 2 C) 3 D) 4 E) 5

7. ABCD paralelkenarının dışındaki bir doğruya köşelere dikmeler çizilmiştir. $|AA'| = 3$ br, $|DD'| = 5$ br $|CC'| = 4$ br ise $|BB'|$ kaç br'dir?

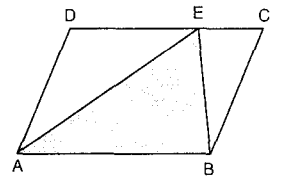


- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

8. Bir ABCD paralelkenarının kenar uzunlukları $a = 10$ br, $b = 8$ br ve köşegenlerinden biri $e = 12$ br ise diğer köşegen f nedir?

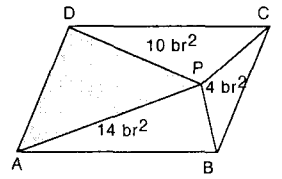
- A) $6\sqrt{2}$ B) $7\sqrt{2}$ C) $2\sqrt{46}$
D) $9\sqrt{2}$ E) $10\sqrt{2}$

9. ABCD paralelkenarında taralı alan 6 br² ise $A(\triangle ADE) + A(\triangle EBC)$ kaç br² dir?



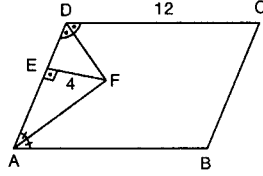
- A) 3 B) 4 C) 6 D) 9 E) 12

10. Şekilde ABCD paralelkenarında $A(\triangle DPC) = 10$ br² $A(\triangle PBC) = 4$ br² $A(\triangle APB) = 14$ br² ise taralı üçgenin alanı kaç br² dir?



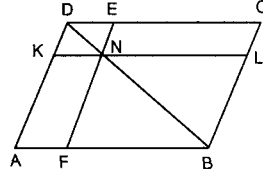
- A) 15 B) 20 C) 22 D) 24 E) 30

11. Şekildeki ABCD paralelkenarında [DF] ve [AF] açıortay $IDCI = 12$ br, $IEFI = 4$ br ise $A(ABCD)$ kaç br^2 'dir?



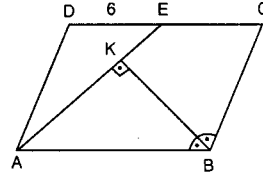
A) 48 B) 60 C) 72 D) 80 E) 96

12. ABCD paralelkenar [KL] // [AB] ve [EF] // [BC] ise $\frac{A(ENLC)}{A(KAFN)}$ oranı nedir?



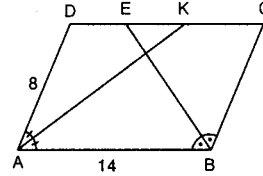
A) $\frac{1}{3}$ B) $\frac{1}{2}$ C) $\frac{2}{3}$ D) $\frac{3}{4}$ E) 1

13. ABCD paralelkenarında [KB] açıortay [AK] $\perp$ [KB] ve $IDEI = 6$ br ise $A(ABCD)$ kaç br^2 'dir?



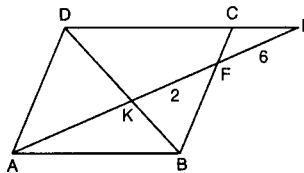
A) 5 B) 6 C) 7 D) 8 E) 9

14. ABCD paralelkenarında [AK] ve [EB] açıortay $IADI = 8$ br, $IABI = 14$ br ise $IEKI$ kaç br^2 'dir?



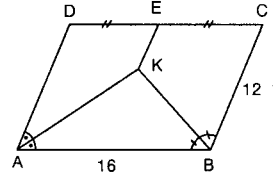
A) 1 B) 2 C) 3 D) $\frac{7}{2}$ E) 4

15. ABCD paralelkenarında $IKFI = 2$ br, $IFEI = 6$ br ise $IAKI$ kaç br^2 'dir?



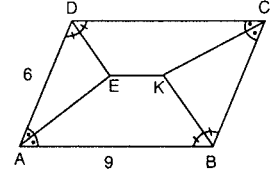
A) 2 B) 3 C) 4 D) 5 E) 6

16. ABCD paralelkenarında $IABI = 16$ br, $IBCI = 12$ br, [AK] ve [BK] açıortay $IDEI = IECI$ ise $IEKI$ kaç br^2 'dir?



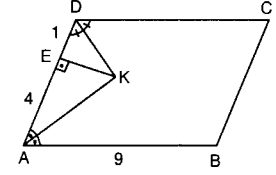
A) 1 B) 2 C) 3 D) 4 E) 5

17. ABCD paralelkenarında $IADI = 6$ br, $IABI = 9$ br ise verilenlere göre $IEKI$ kaç br^2 'dir?



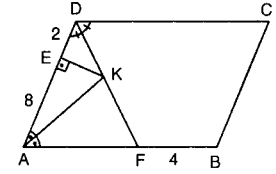
A) 1 B) $\frac{1}{2}$ C) 1 D) 2 E) 3

18. ABCD paralelkenarında [DK] ve [AK] açıortay $IDEI = 1$ br, $IAEI = 4$ br, $IABI = 9$ br ise $A(ABCD)$ kaç br^2 'dir?



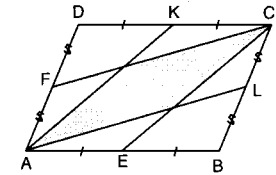
A) 12 B) 18 C) 24 D) 30 E) 36

19. ABCD paralelkenarında [DF] ve [AK] açıortay $[EK] \perp [AD]$ $IDEI = 2$ br, $IAEI = 8$ br $IFBI = 4$ br ise $A(ABCD)$ kaç br^2 'dir?



A) 56 B) 84 C) 100 D) 112 E) 120

20. ABCD paralelkenarında E, F, K, L orta noktalar ise taralı alanın, $A(ABCD)$ ye oranı nedir?



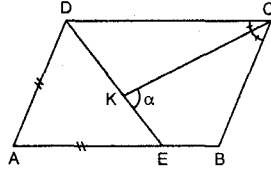
A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{1}{4}$ D) $\frac{1}{5}$ E) $\frac{1}{6}$

PARALELKENAR

TEST 2

1. ABCD paralelkenarında [CK] açıortay
 $IA DI = IAEI$ ise

$m(\widehat{CKE}) = \alpha$ kaç derecedir?

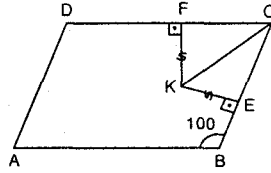


A) 60 B) 80 C) 90 D) 100 E) 110

2. ABCD paralelkenarında
 $IKFI = IKEI$ ve
 $[KF] \perp [DC]$,
 $[KE] \perp [BC]$,

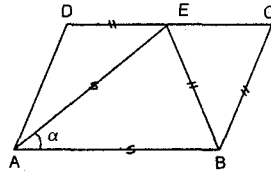
$m(\widehat{ABC}) = 100^\circ$ ise

$m(\widehat{KCE})$ kaç derecedir?



A) 20 B) 30 C) 40 D) 50 E) 60

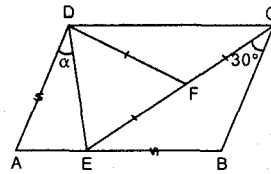
3. ABCD paralelkenarında
 $IDEI = IEBI = IBCI$
 $IAEI = IABI$ ise
 $m(\widehat{EAB})$ kaç derecedir?



A) 30 B) 36 C) 42 D) 48 E) 60

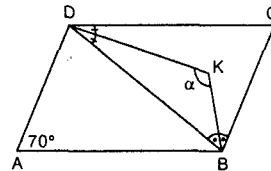
4. ABCD paralelkenarında
 $IDFI = IEFI = IFCI$
 $IA DI = IEBI$ ve
 $m(\widehat{ECB}) = 30^\circ$ ise

$m(\widehat{ADE}) = \alpha$ kaç derecedir?



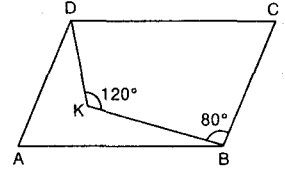
A) 15 B) 20 C) 25 D) 30 E) 60

5. ABCD paralelkenarında [DK] ve [BK] açıortay
 $m(\widehat{DAB}) = 70^\circ$ ise
 $m(\widehat{DKB})$ kaç derecedir?



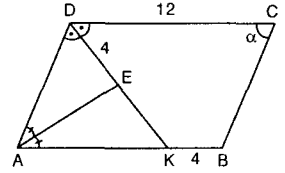
A) 125 B) 130 C) 135 D) 140 E) 145

6. ABCD paralelkenarında verilenlere göre $m(\widehat{ADK})$ kaç derecedir?



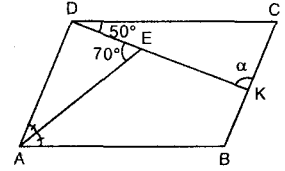
A) 60 B) 50 C) 40 D) 30 E) 20

7. ABCD paralelkenarında [DE] ve [AE] açıortay
 $IDEI = IKB I = 4$ br,
 $IDCI = 12$ br ise
 $m(\widehat{DCB}) = \alpha$ kaç derecedir?



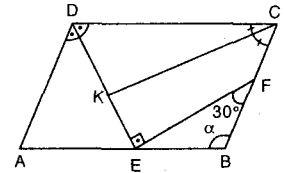
A) 30 B) 45 C) 60 D) 80 E) 90

8. ABCD paralelkenarında [AE] açıortay
 $m(\widehat{CDK}) = 50^\circ$
 $m(\widehat{DEA}) = 70^\circ$ ise
 $m(\widehat{DKC}) = \alpha$ kaç derecedir?



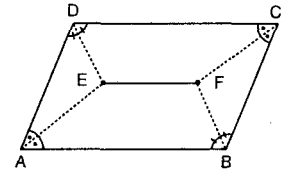
A) 90 B) 100 C) 110 D) 120 E) 130

9. ABCD paralelkenarında [DK] ve [CK] açıortay
 $m(\widehat{FEK}) = 90^\circ$
 $m(\widehat{EFB}) = 30^\circ$ ise
 $m(\widehat{ABF})$ kaç derecedir?



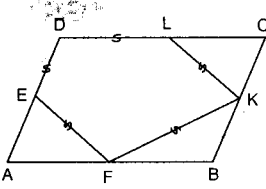
A) 120 B) 125 C) 130 D) 135 E) 140

10. ABCD paralelkenarındır.
 $[DE]$, $[AE]$, $[CF]$, $[BF]$ açıortaydır.
 $IEFI = 2$ br ise
 $IABI - IBCI$ kaç br'dir?



A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

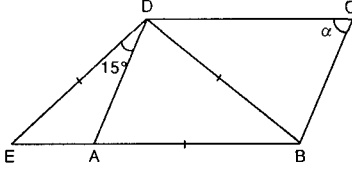
11.



ABCD paralelkenar $IDEI = IEFI = IFKI = IKLI = ILDI$
ise $m(\widehat{KFB})$ kaç derecedir?

- A) 72 B) 60 C) 45 D) 36 E) 30

12.



ABCD paralelkenar $IEDI = IDBI = IABI$ ve
 $m(\widehat{EDA}) = 15^\circ$ ise $m(\widehat{DCB}) = \alpha$ kaç derecedir?

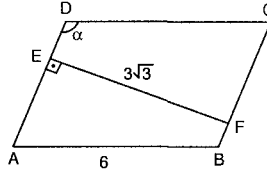
- A) 30 B) 45 C) 60 D) 65 E) 80

13. ABCD paralelkenarında
 $[EF] \perp [DA]$

$IAI = 6$ br,
 $IEFI = 3\sqrt{3}$ br ise

$m(\widehat{ADC}) = \alpha$ kaç derecedir?

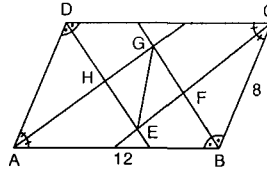
- A) 100 B) 120 C) 130 D) 140 E) 150



14. Şekildeki ABCD paralelkenarında

$IAI = 12$ br,
 $IBC = 8$ br
 $[DH]$, $[AH]$, $[BF]$,
 $[CF]$ açıortay ise
 $IGEI$ kaç br'dir?

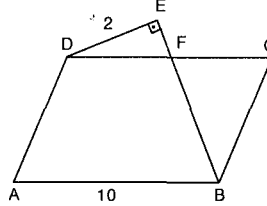
- A) 2 B) 3 C) 4 D) 5 E) 6



15.

ABCD paralelkenarında
 $2IDFI = IBFI$,
 $[DE] \perp [EB]$
 $IAI = 10$ br,
 $IDEI = 2$ br ise
 $A(ABCD)$ kaç br^2 dir?

- A) 40 B) 35 C) 30 D) 25 E) 20



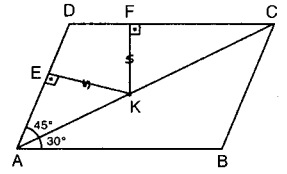
16. ABCD paralelkenarında
 $[EK] \perp [AD]$,
 $[KF] \perp [DC]$

$m(\widehat{DAC}) = 45^\circ$,

$m(\widehat{CAB}) = 30^\circ$

ise $\frac{IAKI}{IKCI}$ oranı nedir?

- A) $\frac{1}{2}$ B) $\frac{\sqrt{2}}{2}$ C) $\frac{\sqrt{3}}{2}$ D) 1 E) $\frac{\sqrt{5}}{2}$

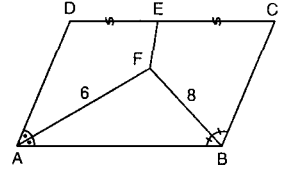


17. ABCD paralelkenarında
 $IAFI = 6$ br,
 $IFBI = 8$ br,

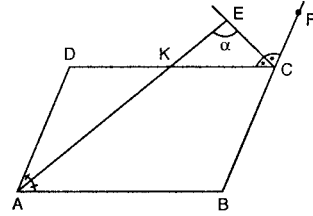
$IEFI = \frac{5}{2}$ br,

$[AF]$ ve $[BF]$ açıortay,
 $IDEI = IECI$ ise $A(ABCD)$ kaç br^2 dir?

- A) 72 B) 80 C) 96 D) 108 E) 120



18.



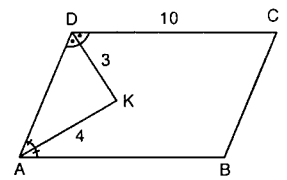
ABCD paralelkenarında $[AK]$ iç açıortay $[EC]$ dış açıortay ise $m(\widehat{KEC}) = \alpha$ kaç derecedir?

- A) 60 B) 70 C) 80 D) 90 E) 100

19. ABCD paralelkenarında $[DK]$ ve $[AK]$ açıortay

$IDKI = 3$ br
 $[AK] = 4$ br,
 $IDCI = 10$ br ise
 $A(ABCD)$ kaç br^2 dir?

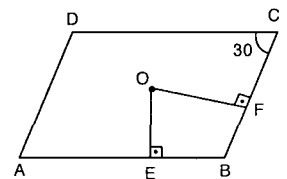
- A) 24 B) 48 C) 72 D) 96 E) 108



20.

ABCD paralelkenarında
O noktası
köşegenlerin kesim noktası
 $m(\widehat{DCB}) = 30^\circ$,
 $IAI = 12$ br
 $IBC = 8$ br ise $IOEI + IOFI$ kaç br'dir?

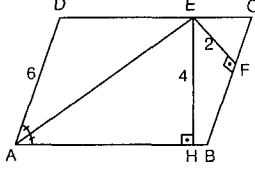
- A) 4 B) 5 C) 7 D) 9 E) 10



PARALELKENAR

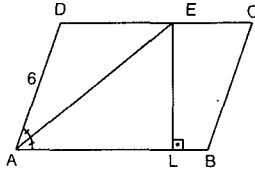
TEST 3

1. Şekildeki ABCD paralelkenarında [AE] açıortay, $|AD| = 6$ br, $|EH| = 4$ br, $|EF| = 2$ br, $[EH] \perp [AB]$ ve $[EF] \perp [BC]$ ise $A(ABCD)$ kaç br²'dir?



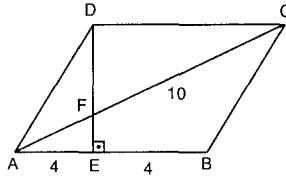
A) 18 B) 24 C) 30 D) 36 E) 48

2. Şekilde ABCD paralelkenar $|AD| = 6$ br, [AE] açıortay $[EL] \perp [AB]$, $\Delta A(ADE) = 15$ br² ise $|EL|$ kaç br'dir?



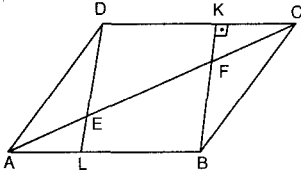
A) 3 B) $\frac{7}{2}$ C) 4 D) $\frac{9}{2}$ E) 5

3. Şekilde ABCD paralelkenar $|AE| = |EB| = 4$ br, $|FC| = 10$ br ise $A(ABCD)$ kaç br² dir?



A) 36 B) 52 C) 62 D) 72 E) 80

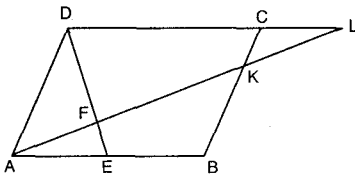
4.



Şekilde ABCD paralelkenar $|AE| = |EF| = |FC| = 5$ br, $|KF| = 3$ br $[KF] \perp [DC]$ ise $|AD|$ kaç br'dir?

A) $\sqrt{91}$ B) $\sqrt{93}$ C) $\sqrt{95}$ D) $\sqrt{97}$ E) $7\sqrt{2}$

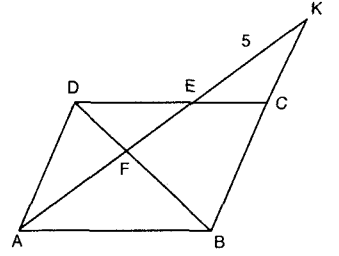
5.



ABCD paralelkenarında $|AE| = |EB|$, $|IC| = |KB|$ ve $|AF| = 4$ br ise $|IK|$ kaç br'dir?

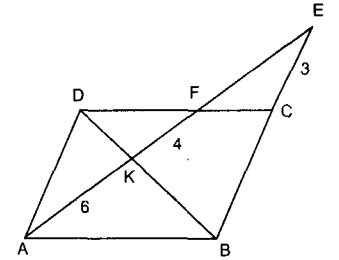
A) 8 B) 9 C) 10 D) 11 E) 12

6. ABCD paralelkenarında $|EK| = 5$ br, $|DE| = \frac{2}{3}$ ise $|AF|$ kaç br'dir?



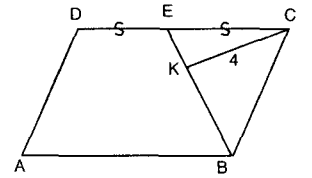
A) 3 B) 4 C) 5 D) 6 E) 7

7. ABCD paralelkenarında $|AK| = 6$ br, $|KF| = 4$ br, $|EC| = 3$ br ve A, K, F, E doğrusal noktalar ise $|BC|$ kaç br'dir?



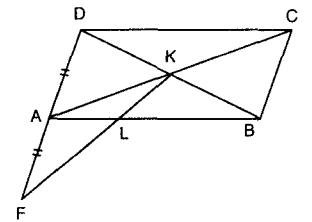
A) 4 B) 5 C) 6 D) 7 E) 8

8. Şekilde ABCD paralelkenar $|DE| = |EC|$, $2|EK| = |KB|$, $|KC| = 4$ br ise $[AC]$ köşegeninin uzunluğu kaç br'dir?



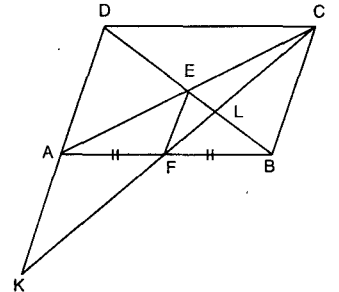
A) 8 B) 9 C) 10 D) 11 E) 12

9. Şekilde ABCD paralelkenar $|AD| = |AF|$ ve $|AL| = 3$ br ise $|DC|$ kaç br'dir?



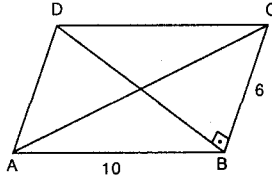
A) 8 B) 9 C) 10 D) 11 E) 12

10. Şekilde ABCD paralelkenar D, A, K noktaları doğrusal $|AF| = |FB|$ ve $|AK| = 4$ br ise $|EF|$ kaç br'dir?



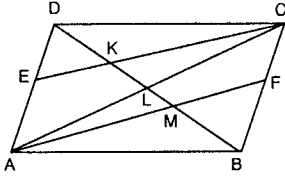
A) 1 B) 2 C) 3 D) 4 E) 5

11. Şekilde ABCD paralelkenar
 $ABI = 10$ br,
 $IBC = 6$ br ve
 $[DB] \perp [BC]$ ise
 ACI kaç br'dir?



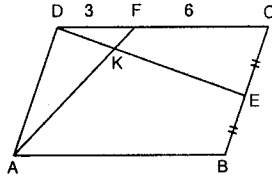
- A) $4\sqrt{13}$ B) $5\sqrt{13}$ C) $6\sqrt{3}$
 D) $7\sqrt{3}$ E) $8\sqrt{3}$

12. Şekilde ABCD paralelkenar E ve F bulundukları kenarların orta noktaları ise $\frac{IDKI + IKMI}{ILDI + ILBI}$ oranı nedir?



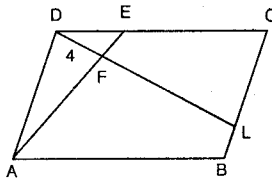
- A) $\frac{1}{3}$ B) $\frac{11}{27}$ C) $\frac{4}{9}$ D) $\frac{5}{9}$ E) $\frac{2}{3}$

13. Şekilde ABCD paralelkenar
 $IDFI = 3$ br,
 $IFCI = 6$ br,
 $ICEI = IEBI$ ise
 $\frac{IDKI}{IKEI}$ oranı nedir?



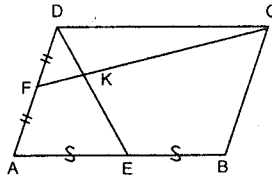
- A) $\frac{1}{8}$ B) $\frac{2}{5}$ C) $\frac{1}{4}$ D) $\frac{1}{3}$ E) $\frac{2}{3}$

14. Şekilde ABCD paralelkenar
 $\frac{IDEI}{IECI} = \frac{1}{2}$, $\frac{IBLI}{ILCI} = \frac{1}{3}$,
 ve $IDFI = 4$ br ise
 $IFLI$ kaç br'dir?



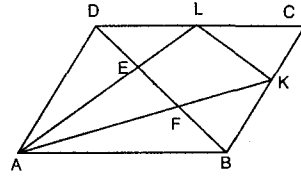
- A) 8 B) 9 C) 10 D) 11 E) 12

15. Şekilde ABCD paralelkenar
 F ve E orta noktaları ise $\frac{IFKI}{IKCI}$ oranı nedir?



- A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{1}{4}$ D) $\frac{1}{5}$ E) $\frac{1}{6}$

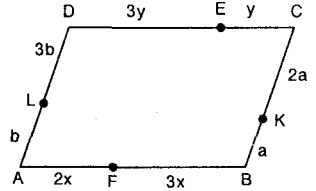
16.



ABCD paralelkenar $IDEI = IEFI = IFBI = 6$ br ise $IKLI$ kaç br'dir?

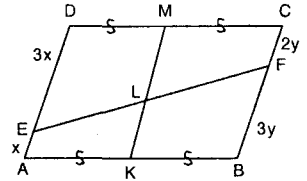
- A) 7 B) 8 C) 9 D) 10 E) 11

17. Yandaki ABCD paralelkenarında verilenlere göre $\frac{y}{x} + \frac{b}{a}$ oranı nedir?



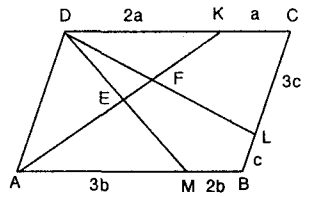
- A) 1 B) 2 C) 3 D) 4 E) 5

18. Şekildeki ABCD paralelkenarında K ve M orta noktalar ise şekilde verilenlere göre $\frac{IMLI}{ILKI}$ nedir?



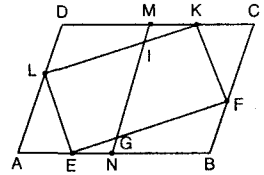
- A) $\frac{19}{17}$ B) $\frac{20}{17}$ C) $\frac{21}{17}$ D) $\frac{22}{17}$ E) $\frac{23}{17}$

19. Şekildeki ABCD paralelkenarında verilenlere göre $\frac{IDFI}{IFLI} + \frac{IEMI}{IDEI}$ oranı nedir?



- A) $\frac{13}{10}$ B) $\frac{7}{5}$ C) $\frac{3}{2}$ D) $\frac{8}{5}$ E) $\frac{17}{10}$

20. ABCD paralelkenarında $ABI = 12$ br
 $IBC = 6$ br,
 $IAEI = IKCI = 4$ br
 $IBFI = IDLI = 2$ br,
 N ve M $[AB]$ ve $[DC]$ 'nin orta noktaları ise $IGLI$ kaç br'dir?

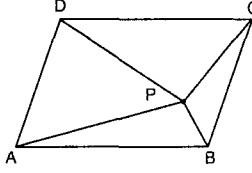


- A) 3 B) $\frac{7}{2}$ C) 4 D) $\frac{9}{2}$ E) 5

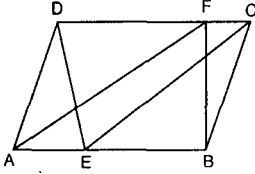
PARALELKENAR

TEST 4

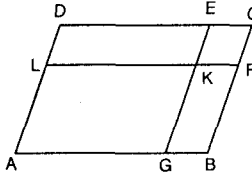
1. Şekilde ABCD paralelkenarının içinde bir P noktası alınıp köşelere birleştiriliyor. $A(DCP) = 4 \text{ br}^2$, $A(PAB) = 3 \text{ br}^2$ ise $A(ABCD)$ kaç br^2 dir?
- A) 14 B) 16 C) 18 D) 20 E) 21



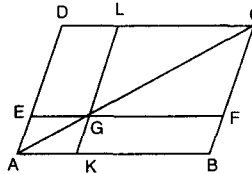
2. Şekilde ABCD paralelkenarında $A(\triangle AFB) + A(\triangle DEC) = 10 \text{ br}^2$ ise $A(\triangle EAD) + A(\triangle EBC)$ kaç br^2 dir?
- A) 5 B) 6 C) 7 D) 8 E) 10



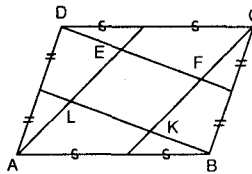
3. Şekilde ABCD paralelkenar $[LF] \parallel [AB]$, $[EG] \parallel [BC]$, $\frac{IDLI}{ADI} = \frac{1}{3}$, $\frac{IGBI}{ABI} = \frac{1}{4}$ ise $\frac{A(EKFC)}{A(ABCD)}$ oranı nedir?
- A) $\frac{1}{7}$ B) $\frac{1}{10}$ C) $\frac{1}{12}$ D) $\frac{1}{14}$ E) $\frac{1}{15}$



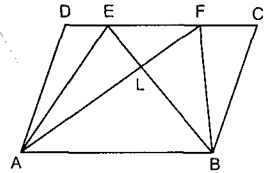
4. Şekilde ABCD paralelkenar $[AD] \parallel [KL]$, $[EF] \parallel [AB]$, $\frac{A(\triangle AKG)}{A(\triangle GFCL)} = \frac{1}{18}$ ise $\frac{A(\triangle EGLD)}{A(\triangle LGC)}$ oranı nedir?
- A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) $\frac{3}{4}$ D) $\frac{4}{5}$ E) $\frac{5}{6}$



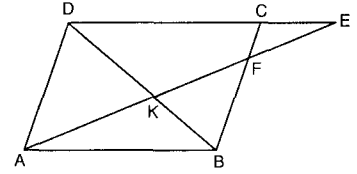
5. Şekildeki paralelkenarda verilenlere göre $\frac{A(\triangle EFKL)}{A(ABCD)}$ oranı nedir?
- A) $\frac{1}{4}$ B) $\frac{1}{5}$ C) $\frac{1}{6}$ D) $\frac{1}{7}$ E) $\frac{1}{8}$



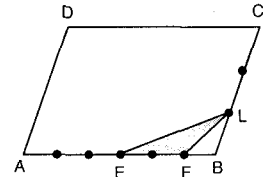
6. Şekilde ABCD paralelkenar $IDEI = IEFI = IFCI$, $A(\triangle EFL) = 1 \text{ br}^2$ ise $A(ABCD)$ kaç br^2 dir?
- A) 12 B) 18 C) 24 D) 30 E) 32



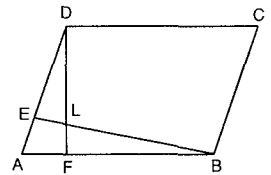
7. Şekilde ABCD paralelkenar D, C, E doğrusal noktalar $IAKI = 4 \text{ br}$, $IKFI = 2 \text{ br}$ ise $\frac{A(\triangle EFC)}{A(\triangle DKFC)}$ oranı nedir?
- A) $\frac{1}{2}$ B) $\frac{3}{5}$ C) $\frac{4}{5}$ D) $\frac{5}{6}$ E) $\frac{6}{7}$



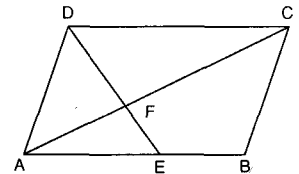
8. Şekildeki ABCD paralelkenarında $[AB]$ kenarı 6, $[BC]$ kenarı 3 eşit parçaya bölünüyor. $A(\triangle EFL) = 2 \text{ br}^2$ ise $A(ABCD)$ kaç br^2 dir?
- A) 9 B) 18 C) 24 D) 30 E) 36



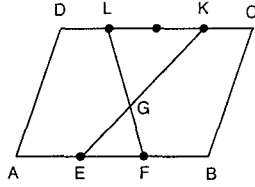
9. Şekilde ABCD paralelkenar $4IAEI = IADI$, $4IAFI = IABI$ ve $A(\triangle FLE) = 2 \text{ br}^2$ ise $A(ABCD)$ kaç br^2 dir?
- A) 10 B) 20 C) 30 D) 40 E) 50



10. Şekilde ABCD paralelkenar $IAEI = IEBI$ ve A, F, C doğrusal ise $\frac{A(\triangle EBCF)}{A(ABCD)}$ oranı nedir?
- A) $\frac{1}{2}$ B) $\frac{5}{12}$ C) $\frac{1}{3}$ D) $\frac{1}{4}$ E) $\frac{5}{24}$

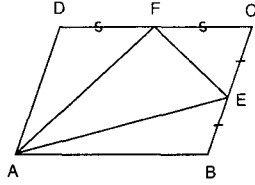


11. Şekildeki ABCD paralelkenarında [AB] 3 eş, [DC] 4 eş parçaya ayrılmıştır.
 $A(\text{GEF}) = 4 \text{ br}^2$ ise
 $A(\text{ABCD})$ kaç br^2 dir?



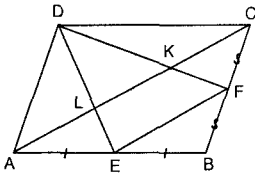
A) 48 B) 50 C) 54 D) 60 E) 64

12. ABCD paralelkenarında F ve E orta noktalar
 $A(\text{ABE}) = 4 \text{ br}^2$ ise
 $A(\text{AEF})$ kaç br^2 dir?



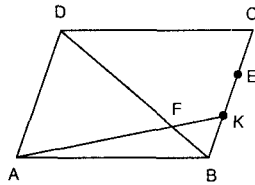
A) 5 B) 6 C) 7 D) 8 E) 9

13. Şekilde ABCD paralelkenar E, F noktaları bulundukları kenarların orta noktaları ve [AC] köşegendir. Buna göre $\frac{A(\text{EFKL})}{A(\text{ADL})}$ oranı nedir?



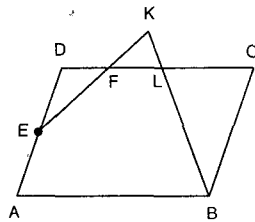
A) $\frac{1}{2}$ B) $\frac{3}{4}$ C) $\frac{4}{5}$ D) $\frac{5}{4}$ E) $\frac{3}{2}$

14. Şekilde ABCD paralelkenarında
 $IKBI = IEKI = ICEI$
D, F, B doğrusal üç noktadır. Buna göre $\frac{A(\text{BFK})}{A(\text{DFKC})}$ nedir?



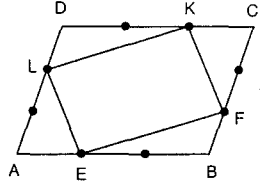
A) $\frac{1}{11}$ B) $\frac{2}{11}$ C) $\frac{5}{22}$ D) $\frac{3}{11}$ E) $\frac{13}{33}$

15. Şekilde ABCD paralelkenar
 $IAEI = IEDI$,
 $IDFI = IFLI = ILCI$ ise
 $\frac{A(\text{KFL})}{A(\text{ABCD})}$ nedir?



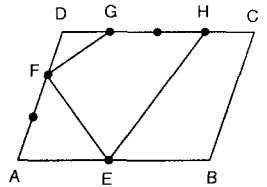
A) $\frac{1}{18}$ B) $\frac{1}{19}$ C) $\frac{1}{20}$ D) $\frac{1}{21}$ E) $\frac{1}{22}$

16. Şekildeki ABCD paralelkenarının tüm kenarları 3 eş parçaya bölünüyor ve ELKF paralelkenarı elde ediliyor. $\frac{A(\text{ELKF})}{A(\text{ABCD})}$ oranı nedir?



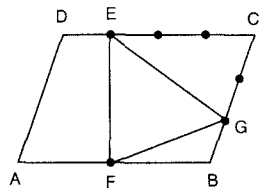
A) $\frac{2}{7}$ B) $\frac{1}{3}$ C) $\frac{3}{7}$ D) $\frac{1}{2}$ E) $\frac{5}{9}$

17. Şekilde ABCD paralelkenar [AB] 2 eş [AD] 3 eş, [DC] ise 4 eş parçaya ayrılıyor. Buna göre $\frac{A(\text{EFGH})}{A(\text{ABCD})}$ oranı nedir?



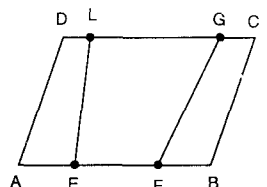
A) $\frac{7}{12}$ B) $\frac{13}{24}$ C) $\frac{1}{2}$ D) $\frac{11}{24}$ E) $\frac{5}{12}$

18. Şekildeki ABCD paralelkenarında [AB], [BC], [CD] sırasıyla iki, üç, dört eş parçaya ayrılmıştır. Buna göre $\frac{A(\text{FGE})}{A(\text{ABCD})}$ nedir?



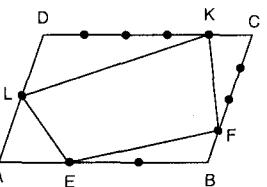
A) $\frac{1}{4}$ B) $\frac{7}{24}$ C) $\frac{1}{3}$ D) $\frac{3}{8}$ E) $\frac{5}{12}$

19. Şekilde ABCD paralelkenar
 $\frac{IEFI}{IABI} = \frac{1}{3}$ ve $\frac{ILGI}{IDCI} = \frac{5}{6}$
ise $\frac{A(\text{EFGI})}{A(\text{ABCD})}$ oranı nedir?



A) $\frac{3}{4}$ B) $\frac{2}{3}$ C) $\frac{7}{12}$ D) $\frac{1}{2}$ E) $\frac{11}{24}$

20. Şekildeki ABCD paralelkenarında [AD] iki eş, [AB] üç eş, [BC] dört eş, [DC] beş eş parçaya bölünmüştür. Buna göre $\frac{A(\text{EFKL})}{A(\text{ABCD})}$ oranı nedir?



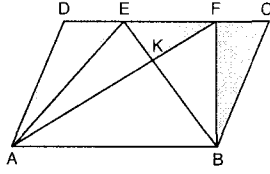
A) $\frac{67}{110}$ B) $\frac{67}{114}$ C) $\frac{67}{120}$ D) $\frac{67}{130}$ E) $\frac{67}{135}$

PARALELKENAR

TEST

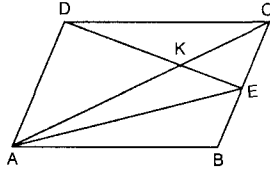
5

1. ABCD paralelkenarında taralı alanların toplamı 30 br² ise $\Delta(AKB)$ kaç br²'dir?



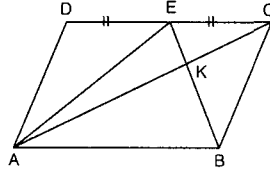
A) 30 B) 35 C) 40 D) 50 E) 60

2. ABCD paralelkenarında $\Delta(DKA) = 16$ br² ve $\Delta(KCE) = 4$ br² ise $\Delta(ABE)$ kaç br²'dir?



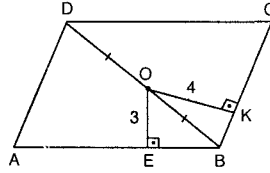
A) 8 B) 9 C) 10 D) 11 E) 12

3. ABCD paralelkenarında IDEI = IECI ve $\Delta(AEK) = 2$ br² ise $\Delta(ABCD)$ kaç br²'dir?



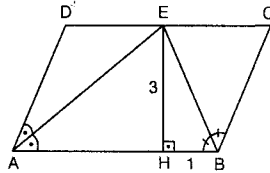
A) 6 B) 8 C) 10 D) 12 E) 14

4. ABCD paralelkenarında [DB] köşegen IDOI = IOBI, IOEI = 3 br, IOKI = 4 br, IABI + IBCI = 56 br ise IDCI kaç br'dir?



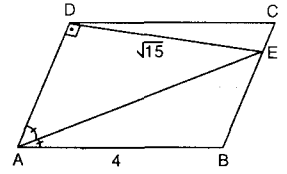
A) 16 B) 24 C) 32 D) 40 E) 64

5. ABCD paralelkenarında [AE] ve [BE] açıortay [EH] $\perp$ [AB] IHBI = 1 br, IEHI = 3 br ise $\Delta(ABCD)$ kaç br²'dir?



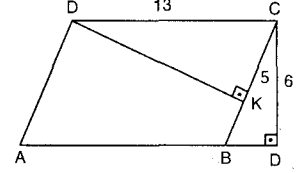
A) 15 B) 20 C) 25 D) 30 E) 35

6. ABCD paralelkenarında [AE] açıortay [AD] $\perp$ [DE] IABI = 4 br, IDEI = $\sqrt{15}$ br ise IADI kaç br'dir?



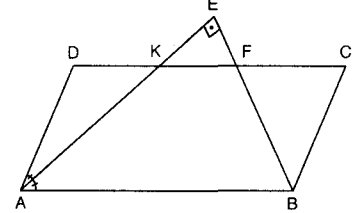
A) 3 B) 4 C) 5 D) 6 E) 7

7. ABCD paralelkenar, IDCI = 13 br, ICKI = 5 br, IDCI = 6 br, [DK] $\perp$ [BC], [CD] $\perp$ [BD] ise IBKI nedir?



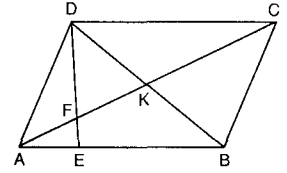
A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

8. ABCD paralelkenarında [AK] açıortay [AE] $\perp$ [BE] IEFI = 2 ve IABI = 9 br ise IADI kaç br'dir?



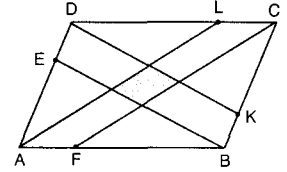
A) 2 B) $\frac{5}{2}$ C) 3 D) $\frac{7}{2}$ E) 4

9. ABCD paralelkenarında 4IAEI = IABI IKCI = 15 br ise IAFI kaç br'dir?



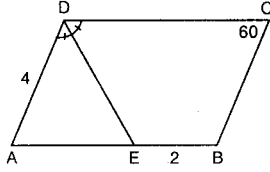
A) 6 B) 7 C) 8 D) 9 E) 10

10. ABCD paralelkenar IDEI = IKBI = $\frac{IADI}{4}$ ILCI = IAFI = $\frac{IABI}{4}$ ise ABCD paralelkenarının alanı taralı alanın kaç katıdır?



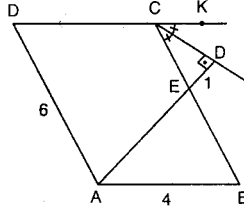
A) 20 B) 21 C) 22 D) 23 E) 25

11. ABCD paralelkenarında [DE] açıortay
 $m(\widehat{DCB}) = 60^\circ$
 $IA DI = 4$ br,
 $IE BI = 2$ br ise
A(ABCD) kaç br²dir?



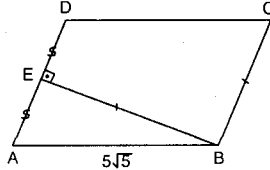
- A) $6\sqrt{3}$ B) $9\sqrt{3}$ C) $12\sqrt{3}$
 D) $14\sqrt{3}$ E) $16\sqrt{3}$

12. ABCD paralelkenarında
 $[CD] \perp [ED]$,
 $[CD]$ açıortay
 $IEDI = 1$ br,
 $IADI = 6$ br,
 $IA BI = 4$ br ise
IAEI kaç br'dir?



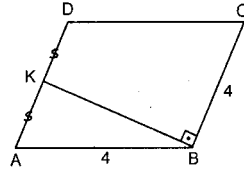
- A) 3 B) 4 C) $4\sqrt{3}$ D) $6\sqrt{3}$ E) $8\sqrt{3}$

13. ABCD paralelkenarında
 $IA BI = 5\sqrt{5}$ br
 $IDEI = IEAI$,
 $IE BI = IBCI$,
 $[AD] \perp [EB]$ ise
A(ABCD) kaç br²dir?



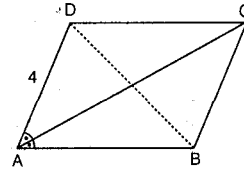
- A) 50 B) 75 C) 100 D) 125 E) 150

14. ABCD paralelkenarında
 $IA BI = IBCI = 4$
 $IDKI = IKAI$,
 $m(\widehat{KBC}) = 90^\circ$ ise
A(ABCD) kaç br²dir?



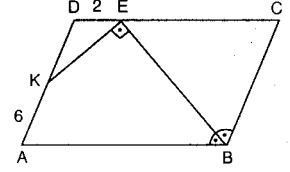
- A) $4\sqrt{3}$ B) $5\sqrt{3}$ C) $6\sqrt{3}$
 D) $7\sqrt{3}$ E) $8\sqrt{3}$

15. ABCD paralelkenarında
 $m(\widehat{DAC}) = m(\widehat{CAB})$
 $IADI = 4$ br,
 $IACI = 4\sqrt{3}$ br ise **IDBI kaç br'dir?**



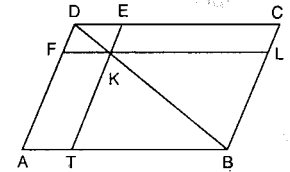
- A) 3 B) $\frac{7}{2}$ C) 4 D) $\frac{9}{2}$ E) 5

16. ABCD paralelkenarında $IDEI = 2$ br
 $IAKI = 6$ br
 $m(\widehat{ABE}) = m(\widehat{EBC})$,
 $[KE] \perp [EB]$ ise **IABI kaç br'dir?**



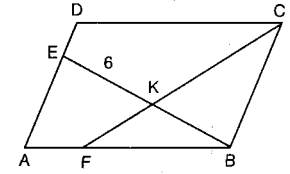
- A) 8 B) $\frac{17}{2}$ C) 9 D) $\frac{19}{2}$ E) 10

17. ABCD paralelkenar
 $[FL] \parallel [AB]$
 $[TE] \parallel [AD]$,
 $A(FKED) = 4$ br²
 $A(TBLK) = 36$ br²
 ise **A(ABCD) kaç br²dir?**



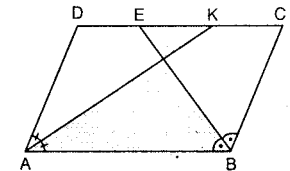
- A) 40 B) 48 C) 54 D) 60 E) 64

18. ABCD paralelkenarında
 $\frac{IBFI}{IAI} = \frac{3}{4}$, $\frac{IDEI}{IDA} = \frac{1}{3}$ ve
 $IEKI = 6$ br ise **IKBI kaç br'dir?**



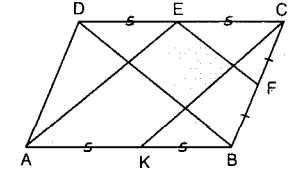
- A) 6 B) $\frac{15}{2}$ C) 8 D) $\frac{17}{2}$ E) 9

19. ABCD paralelkenarında $\frac{IA BI}{IBCI} = \frac{7}{4}$ ve
 $A(ABCD) = 112$ br²
 ise **taralı alanlar toplamı kaç br²dir?**



- A) 50 B) 56 C) 60 D) 64 E) 70

20. ABCD paralelkenarında E, F, K orta noktalardır. **Buna göre taralı alanın ABCD paralelkenarının alanına oranı nedir?**

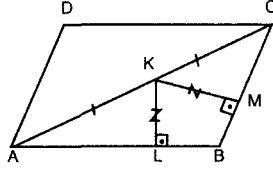


- A) $\frac{1}{6}$ B) $\frac{1}{7}$ C) $\frac{1}{8}$ D) $\frac{1}{9}$ E) $\frac{1}{10}$

PARALELKENAR

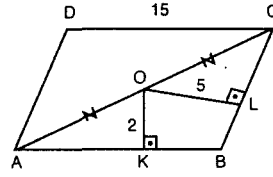
TEST 6

1. ABCD paralelkenarında
 $IAKI = IKCI$,
 $IKLI = IKMI$,
 $[KL] \perp [AB]$
 $[KM] \perp [BC]$ ise
 $\frac{IAB}{IBC}$ oranı nedir?



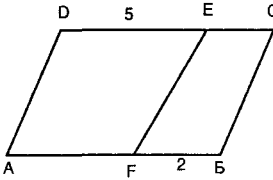
- A) 2 B) $\frac{3}{2}$ C) $\frac{14}{9}$ D) $\frac{13}{10}$ E) 1

2. ABCD paralelkenarında O [AC] nin orta noktası
 $[OK] \perp [AB]$,
 $[OL] \perp [BC]$,
 $IOKI = 2$ br,
 $IOLI = 5$ br ise
 IBC kaç br'dir?



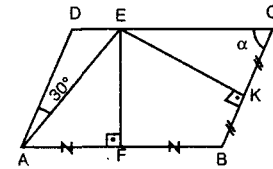
- A) 3 B) 4 C) 5 D) 6 E) 7

3. ABCD paralelkenarında
 $IFBI = 2$ br,
 $IDEI = 5$ br ve
 $A(AFED) = 3A(FBCE)$ ise
 $IAFI$ kaç br'dir?



- A) 3 B) $\frac{7}{2}$ C) 4 D) $\frac{9}{2}$ E) 5

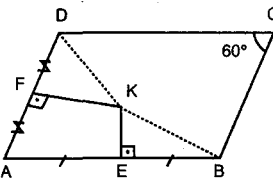
4. ABCD paralelkenarında F ve K sırasıyla [AB] ve [BC] nin orta dikmeleri
 $m(\widehat{DAE}) = 30^\circ$ ise



$m(\widehat{BCE}) = \alpha$ kaç derecedir?

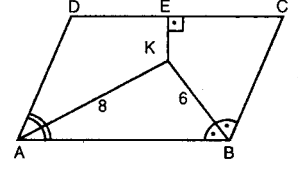
- A) 60 B) 65 C) 70 D) 75 E) 80

5. ABCD paralelkenarında [EK] ve [FK] sırasıyla [AB] ve [AD] nin orta dikmeleri
 $m(\widehat{BCD}) = 60^\circ$ ise
 $m(\widehat{DKB})$ kaç derecedir?



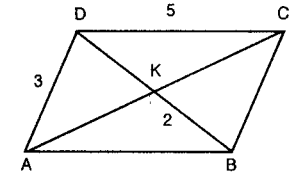
- A) 100 B) 120 C) 130 D) 140 E) 150

6. ABCD paralelkenarında
 $[EK] \perp [DC]$
 $[AK]$ ve $[BK]$ açıortay
 $IAKI = 8$ br
 $IKBI = 6$ br ve
 $A(ABCD) = 58 \text{ br}^2$ ise $IEKI$ kaç br'dir?



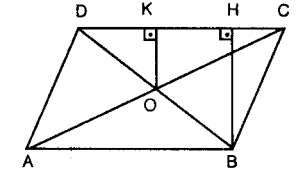
- A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) 1 D) $\frac{3}{2}$ E) 2

7. ABCD paralelkenarında
 $ADI = 3$ br,
 $IDCI = 5$ br,
 $IBKI = 2$ br ise
 $IKCI$ kaç br'dir?



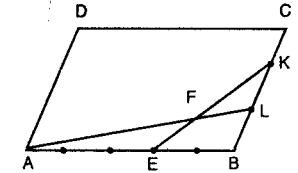
- A) 2 B) 3 C) $2\sqrt{3}$ D) $\sqrt{13}$ E) 4

8. ABCD paralelkenarında
 $IHCI = 2$ br
 $IKHI = 1$ br ve
 $IOKI = 3$ br,
 $[OK] \perp [DC] \perp [HB]$ ise
 $A(ABCD)$ kaç br² dir?



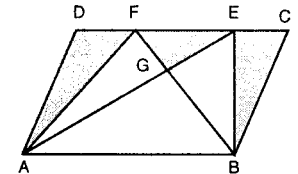
- A) 20 B) 22 C) 24 D) 28 E) 30

9. ABCD paralelkenarında [BC] 3 eşit parçaya [AB] 5 eşit parçaya bölünmüştür.
 $\frac{A(AEF)}{A(ABCD)}$ oranı nedir?



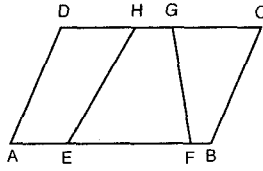
- A) $\frac{7}{20}$ B) $\frac{3}{20}$ C) $\frac{1}{4}$ D) $\frac{1}{5}$ E) $\frac{3}{40}$

10. ABCD paralelkenar ise $\triangle AGB$ üçgenin taralı alanlar toplamına oranı nedir?



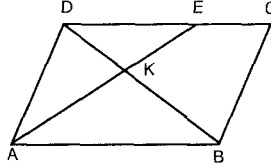
- A) 3 B) 2 C) 1 D) $\frac{4}{5}$ E) $\frac{3}{5}$

11. ABCD paralelkenarında
 $IEFI = 2IHGI = \frac{|AB|}{2}$
 ise $\frac{A(EFGH)}{A(ABCD)}$ oranı nedir?



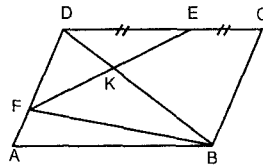
- A) $\frac{3}{4}$ B) $\frac{5}{8}$ C) $\frac{1}{2}$ D) $\frac{3}{8}$ E) $\frac{1}{4}$

12. ABCD paralelkenarında
 $A(DKE) = 9 \text{ br}^2$
 $A(ABK) = 16 \text{ br}^2$ ise
 $A(ABCD)$ nedir?



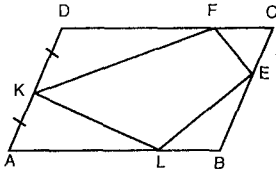
- A) 50 B) 52 C) 54 D) 56 E) 58

13. ABCD paralelkenarında
 $IDEI = IECI$
 $3IAFI = IFDI$ ise
 $\frac{A(FKD)}{A(ABF)}$ oranı nedir?



- A) $\frac{4}{5}$ B) $\frac{9}{10}$ C) 1 D) $\frac{11}{10}$ E) $\frac{6}{5}$

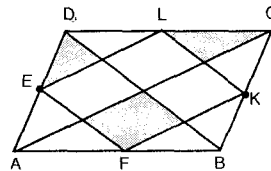
14.



- ABCD paralelkenar $3IECI = IBEI$,
 $2IBLI = 2IFCI = IALI = IDFI$, $IAKI = IKDI$ ise
 $\frac{A(KLEF)}{A(ABCD)}$ oranı nedir?

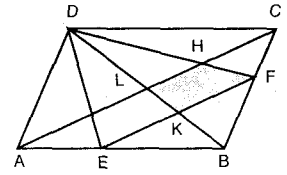
- A) $\frac{1}{2}$ B) $\frac{11}{24}$ C) $\frac{5}{12}$ D) $\frac{3}{8}$ E) $\frac{7}{24}$

15. ABCD paralelkenarında
 E, F, K, L noktaları
 bulundukları
 kenarların orta
 noktaları ve
 $A(ABCD) = 48 \text{ br}^2$ ise taralı alanlar toplamı kaç br^2 dir?



- A) 6 B) 9 C) 10 D) 12 E) 16

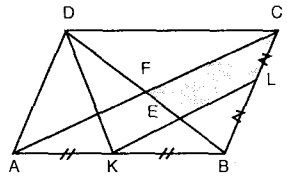
16. ABCD paralelkenarında
 $\frac{|AE|}{|AB|} = \frac{|CF|}{|BC|} = \frac{1}{3}$
 $[AC]$ ve $[BD]$ köşegen ve



$A(ABCD) = 72 \text{ br}^2$ ise taralı alan kaç br^2 dir?

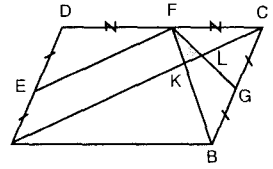
- A) 3 B) 4 C) 5 D) 6 E) 7

17. ABCD paralelkenarında K, L sırasıyla
 $[AB]$ ve $[BC]$ nin orta noktalarıdır.
 Buna göre $\frac{A(EFCL)}{A(ABCD)}$ oranı nedir?



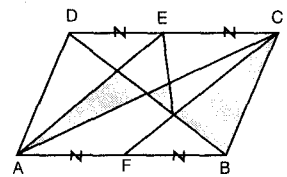
- A) $\frac{1}{16}$ B) $\frac{1}{8}$ C) $\frac{3}{16}$ D) $\frac{1}{4}$ E) $\frac{5}{16}$

18. ABCD paralelkenarında E, F, G bulundukları kenarların orta noktaları
 ise $\frac{A(FKL)}{A(ABCD)}$ oranı nedir?



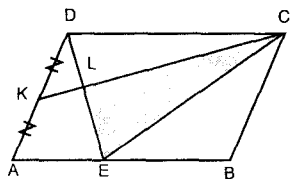
- A) $\frac{1}{45}$ B) $\frac{1}{46}$ C) $\frac{1}{47}$ D) $\frac{1}{48}$ E) $\frac{1}{49}$

19. ABCD paralelkenarında E, F bulundukları kenarların orta noktaları $[AC]$ ve $[BD]$ köşegen ve $A(ABCD) = 60 \text{ br}^2$ ise taralı alanlar toplamı kaç br^2 dir?



- A) 13 B) 14 C) 16 D) 18 E) 20

20. ABCD paralelkenarında
 $IKDI = IAKI$
 $\frac{|AE|}{|AB|} = \frac{1}{4}$ ve
 $A(ABCD) = 72 \text{ br}^2$ ise



taralı alan kaç br^2 dir?

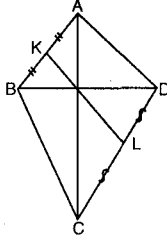
- A) 20 B) 22 C) 24 D) 26 E) 28

DİKDÖRTGEN

TEST

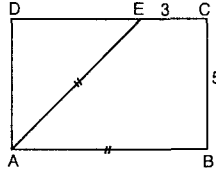
I

1. ABCD dörtgeninde,
IAKI = IBKI,
ICLI = IDLI,
IACI + IBDI = 28 br,
IKLI = 10 br ise **A(ABCD)** kaç br²dir?



A) 112 B) 104 C) 96 D) 90 E) 80

2. Şekilde,
ABCD dikdörtgen,
IAEI = IABI,
IECI = 3 br,
IBCI = 5 br ise
A(ABCD) kaç br²dir?

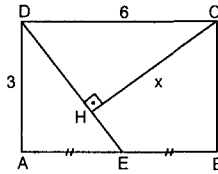


A) $\frac{67}{3}$ B) $\frac{70}{3}$ C) $\frac{74}{3}$ D) $\frac{80}{3}$ E) $\frac{85}{3}$

3. Bir dikdörtgenin köşegenlerinin kesim noktasının komşu iki kenara dik uzaklıkları toplamı 4 br'dir.
Köşegen uzunluğu $2\sqrt{11}$ br olduğuna göre alanı kaç br²dir?

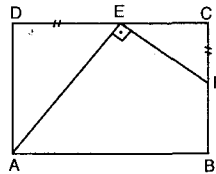
A) 5 B) 10 C) 15 D) 20 E) 25

4. Şekilde ABCD dikdörtgen
[CH] ⊥ [DE],
IAEI = IEBI,
IADI = 3 br,
IDCI = 6 br ise
ICHI = x kaç br'dir?



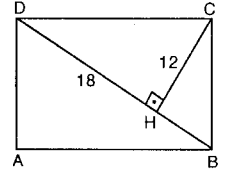
A) 2 B) $2\sqrt{2}$ C) 3 D) $3\sqrt{2}$ E) 4

5. Şekilde ABCD dikdörtgen
[AE] ⊥ [EF],
IDEI = ICFI,
ICFI = 3IFBI ve
A(ABFE) = 32 br² ise
A(ADE) kaç br²dir?



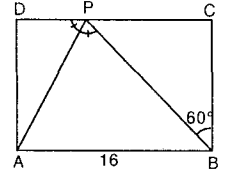
A) 9 B) 10 C) 12 D) 14 E) 15

6. Şekilde ABCD dikdörtgen,
[CH] ⊥ [DB],
IDHI = 18 br,
ICHI = 12 br ise
Ç(ABCD) kaç br'dir?



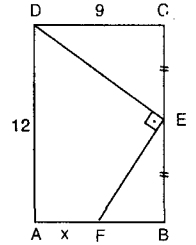
A) $12\sqrt{10}$ B) $16\sqrt{10}$ C) $15\sqrt{10}$
D) $18\sqrt{13}$ E) $20\sqrt{13}$

7. Şekilde ABCD dikdörtgen,
 $m(\hat{DPA}) = m(\hat{APB})$
 $m(\hat{PBC}) = 60^\circ$,
IABI = 16 br ise
A(ABCD) kaç br²dir?



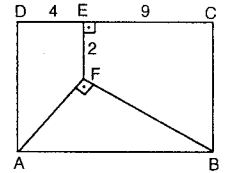
A) 128 B) 120 C) 116 D) 108 E) 96

8. Şekilde ABCD dikdörtgen,
[DE] ⊥ [EF],
ICEI = IEBI,
IADI = 12 br,
IDCI = 9 br ise
IAFI = x kaç br'dir?



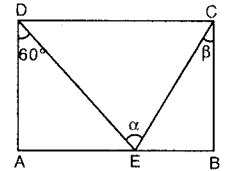
A) 2 B) 3 C) 4 D) 5 E) 6

9. Şekilde ABCD dikdörtgen,
[EF] ⊥ [DC],
[AF] ⊥ [FB],
IDEI = 4 br,
IECI = 9 br,
IEFI = 2 br ise
A(ABCD) kaç br²dir?



A) 104 B) 108 C) 115 D) 120 E) 124

10. Şekilde ABCD dikdörtgen,
 $m(\hat{ADE}) = 60^\circ$,
 $IBC I = \frac{1}{2} IDC I$ ve
 $m(\hat{DEC}) = \alpha$,
 $m(\hat{ECB}) = \beta$ ise
 $\frac{\beta}{\alpha}$ oranı nedir?



A) $\frac{1}{2}$ B) $\frac{1}{4}$ C) $\frac{1}{5}$ D) $\frac{1}{6}$ E) $\frac{1}{7}$

11. Şekilde ABCD

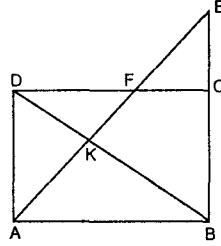
dikdörtgen,

A, K, F, E noktaları

doğrusal,

 $IEFI = 5$ br, $IFCI = \sqrt{10}$ br, $ICBI = 2\sqrt{15}$ br ise

IAKI kaç br'dir?



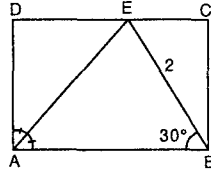
- A) 8 B) 7 C) 6 D) 5 E) 4

12. Şekilde ABCD dikdörtgen,

[AE] açıortay,

 $m(\angle EBA) = 30^\circ$ ve $IEBI = 2$ br ise

IABI kaç br'dir?



- A) $\frac{\sqrt{3}-1}{2}$ B) $\frac{\sqrt{3}+1}{2}$ C) $\sqrt{3}-1$
 D) $\sqrt{3}+1$ E) $2\sqrt{3}$

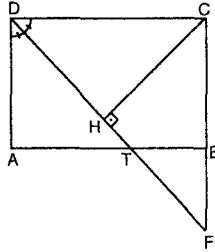
13. Şekilde ABCD

dikdörtgen,

[DF] açıortay,

 $IADI = 3$ br, $IABI = 5$ br ise

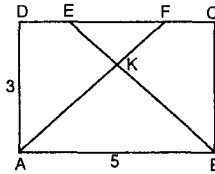
IHTI kaç br'dir?



- A) $\frac{\sqrt{2}}{4}$ B) $\frac{\sqrt{2}}{2}$ C) $\sqrt{2}$
 D) $\frac{3\sqrt{2}}{2}$ E) $2\sqrt{2}$

14. Şekilde ABCD

dikdörtgen,

 $IADI = IDFI = IECI$, $IADI = 3$ br, $IABI = 5$ br ise $A(\triangle EKF)$ kaç br²dir?

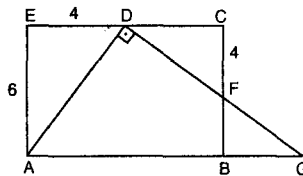
- A) 1 B) $\frac{2}{3}$ C) $\frac{1}{2}$ D) $\frac{1}{3}$ E) $\frac{1}{4}$

15. Şekilde ABCE

dikdörtgen,

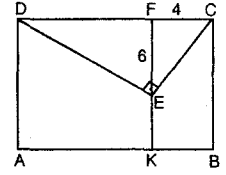
[AD] $\perp$ [DG], $IEDI = ICFI = 4$ br, $IAEI = 6$ br ise

IFGI kaç br'dir?



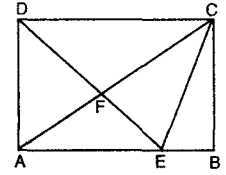
- A) $\sqrt{7}$ B) $2\sqrt{7}$ C) $\sqrt{11}$
 D) $\sqrt{13}$ E) $2\sqrt{13}$

16. Şekilde ABCD dikdörtgen,

[FK] $\parallel$ [BC],[DE] $\perp$ [EC], $IEFI = IEKI$, $IEFI = 6$ br, $IFCI = 4$ br ise $A(\triangle DEK)$ kaç br²dir?

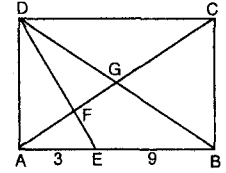
- A) 54 B) 66 C) 72 D) 81 E) 96

17. Şekilde ABCD dikdörtgen,

 $A(\triangle BCE) = 6$ br², $A(\triangle AFE) = 10$ br² ise $A(\triangle AFD)$ kaç br²dir?

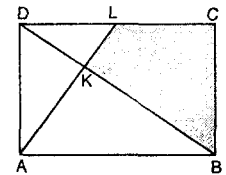
- A)
- $4\sqrt{10}$
- B) 12 C) 10 D) 9 E) 8

18. Şekilde ABCD dikdörtgen,

 $IAEI = 3$ br, $IEBI = 9$ br, $IBDI = 15$ br ise $A(\triangle DFG)$ kaç br²dir?

- A) 9 B) 15 C) $\frac{81}{5}$ D) $\frac{96}{5}$ E) 27

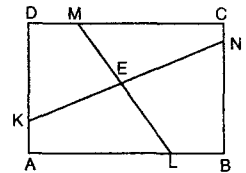
19. Şekilde ABCD dikdörtgen,

 $2ILCI = 3IDL$, $A(ABCD) = 420$ br² isetaralı alan kaç br² dir?

- A) 200 B) 196 C) 192 D) 188 E) 186

20. Şekilde ABCD

dikdörtgen,

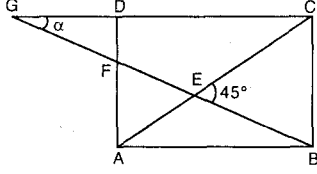
 $IDMI = ILBI$, $ICNI = IKAI$, $A(\triangle DKEM) = 25$ br², $A(\triangle MENC) = 18$ br² ise $A(ABCD)$ kaç br² dir?

- A) 68 B) 72 C) 82 D) 86 E) 102

DİKDÖRTGEN

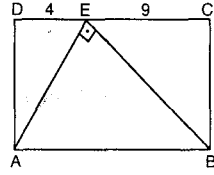
TEST 2

1. Şekilde ABCD dikdörtgen, B, E, F, G noktaları doğrusal, $m(\hat{CEB}) = 45^\circ$ ve $IACI = IGD$ ise $m(\hat{CGB}) = \alpha$ kaç derecedir?



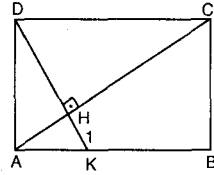
A) 10 B) 15 C) 22,5 D) 30 E) 37,5

2. Şekilde ABCD dikdörtgen, $[AE] \perp [EB]$, $IDEI = 4$ br, $IECI = 9$ br ise $A(ABCD)$ kaç br^2 dir?



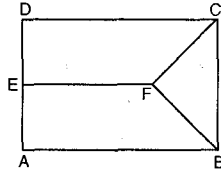
A) 78 B) 84 C) 90 D) 96 E) 102

3. Şekilde ABCD dikdörtgen, $[DK] \perp [AC]$, $IDHI = 2IAHI$, $IHKI = 1$ br ise $A(ABCD)$ kaç br^2 dir?



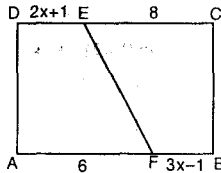
A) 64 B) 56 C) 48 D) 40 E) 32

4. Şekilde ABCD dikdörtgen, $2IFCI = 2IFBI = IEFI$, $IBCI = 6$ br, $IABI = 14$ br ise $IEFI$ kaç br dir?



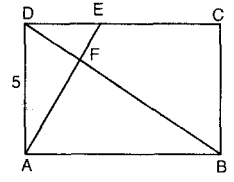
A) 7 B) 8 C) 9 D) 10 E) 11

5. Şekilde ABCD dikdörtgen, $IDEI = 2x + 1$ br, $IFBI = 3x - 1$ br, $IECI = 8$ br, $IAFI = 6$ br ise $\frac{A(FBCE)}{A(AFED)}$ oranı nedir?



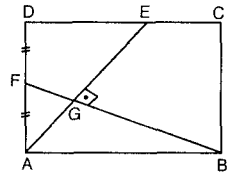
A) 2 B) $\frac{5}{3}$ C) $\frac{19}{15}$ D) 1 E) $\frac{13}{15}$

6. Şekilde ABCD dikdörtgen, $\frac{IDEI}{IDCI} = \frac{1}{3}$, $IFBI = \frac{39}{4}$ br, $IDA I = 5$ br ise $A(ABCD)$ kaç br^2 dir?



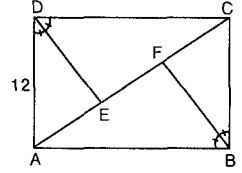
A) 45 B) 50 C) 55 D) 60 E) 65

7. Şekilde ABCD dikdörtgen, $[AE] \perp [BF]$, $IAFI = IFDI$, $IDEI = 2IECI$, $IFGI = 4$ br ise $A(ABCD)$ kaç br^2 dir?



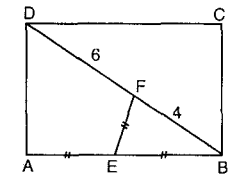
A) 64 B) $64\sqrt{3}$ C) 86 D) 128 E) $128\sqrt{3}$

8. Şekilde ABCD dikdörtgen, $[DE]$ ve $[FB]$ açıortaydır. $IAEI = IEFI$, $IADI = 12$ br ise $ICFI$ kaç br dir?



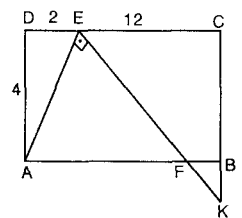
A) 4 B) $4\sqrt{2}$ C) $6\sqrt{2}$ D) $3\sqrt{5}$ E) $4\sqrt{5}$

9. Şekilde ABCD dikdörtgen, $IAEI = IEBI = IEFI$, $IDFI = 6$ br, $IFBI = 4$ br ise $A(EFB)$ kaç br^2 dir?



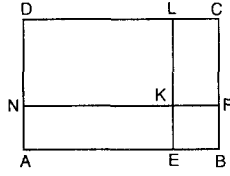
A) $2\sqrt{2}$ B) $2\sqrt{3}$ C) $2\sqrt{6}$ D) $3\sqrt{6}$ E) $6\sqrt{2}$

10. Şekilde ABCD dikdörtgen, $[AE] \perp [EK]$, $IADI = 4$ br, $IDEI = 2$ br, $IECI = 12$ br ise $IAFI$ kaç br dir?



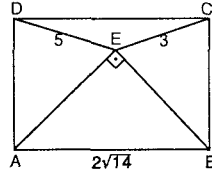
A) 12 B) 10 C) 9 D) 8 E) 6

11. Şekilde ABCD dikdörtgen, EBFK kare, $3IKFI = INKI$, $A(ABCD) = 2A(NKLD)$ ise $\frac{A(EBFK)}{A(KFCL)}$ oranı nedir?



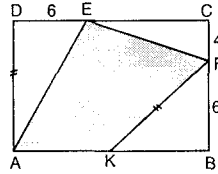
- A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{2}{3}$ D) $\frac{3}{4}$ E) $\frac{4}{5}$

12. Şekilde ABCD dikdörtgen, $[AE] \perp [EB]$, $IDEI = 5$ br, $IECI = 3$ br, $IABI = 2\sqrt{14}$ br ise $IAEI$ kaç br dir?



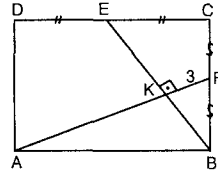
- A) 3 B) 4 C) 5 D) 6 E) 7

13. Şekilde ABCD dikdörtgen, $IDEI = IFBI = 6$ br, $IADI = IFKI$, $IAKI = x$ br, $ICFI = 4$ br ise $A(AEFK)$ kaç br^2 dr?



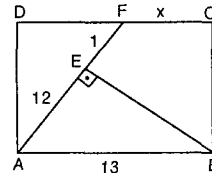
- A) $10x - 42$ B) $10x - 54$ C) $8x + 54$
D) $8x + 22$ E) $6x + 32$

14. Şekilde ABCD dikdörtgen, $[AF] \perp [EB]$, $IDEI = IECI$, $IBFI = ICFI$ ve $IKFI = 3$ br ise $A(ABCD)$ kaç br^2 dir?



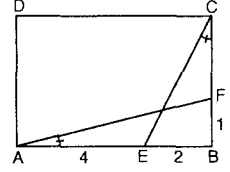
- A) 90 B) 120 C) 140 D) 160 E) 180

15. Şekilde ABCD dikdörtgen, $[AF] \perp [EB]$, $IABI = 13$ br, $IAEI = 12$ br, $IEFI = 1$ br ise $ICFI = x$ kaç br dir?



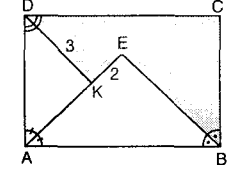
- A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

16. Şekilde ABCD dikdörtgen, $m(\widehat{ECB}) = m(\widehat{FAB})$, $IAEI = 4$ br, $IEBI = 2$ br, $IFBI = 1$ br ise $A(ABCD)$ kaç br^2 dir?



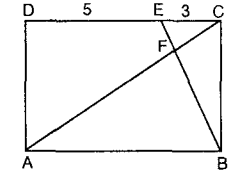
- A) 48 B) 60 C) 72 D) 90 E) 96

17. Şekilde ABCD dikdörtgen, $[AE]$, $[EB]$ ve $[DK]$ açıortay, $IDKI = 3$ br, $IKEI = 2$ br ise taralı alan kaç br^2 dir?



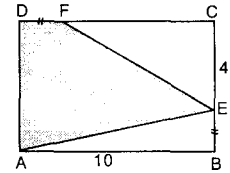
- A) 8 B) 10 C) 13 D) 15 E) 17

18. Şekilde ABCD dikdörtgen, $m(\widehat{DAC}) = 2m(\widehat{EBC})$, $IDEI = 5$ br, $IECI = 3$ br ise $A(ABCD)$ kaç br^2 dir?



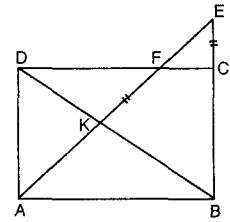
- A) 30 B) 28 C) 26 D) 24 E) 22

19. Şekilde ABCD dikdörtgen, $IDFI = IBEI$, $IABI = 10$ br, $ICEI = 4$ br ve $A(AEFD) = 76$ br^2 ise $IDFI$ kaç br dir?



- A) 14 B) 10 C) 8 D) 7 E) 6

20. Şekilde ABCD dikdörtgen, $IKFI = IECI$, $IAKI = 6$ br, $IKEI = 9$ br ise $A(ABCD)$ kaç br^2 dir?

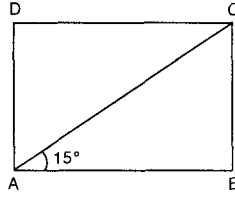


- A) 72 B) 75 C) 80 D) 84 E) 90

DİKDÖRTGEN

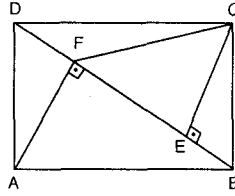
TEST 3

1. ABCD dikdörtgen
 $IACI = 12 \text{ cm}$,
 $m(\hat{BAC}) = 15^\circ$ ise
 $A(ABCD)$ kaç cm^2 dir?



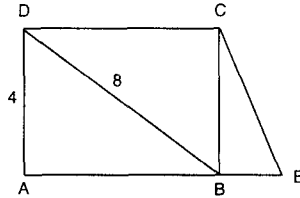
A) 12 B) 24 C) 36 D) 48 E) 60

2. Şekilde ABCD dikdörtgen,
 $[AF] \perp [BD]$,
 $[CE] \perp [BD]$,
 $IBEL = 2 \text{ br}$,
 $IAFI = 4 \text{ br}$ ise
 $ICFI$ kaç br'dir?



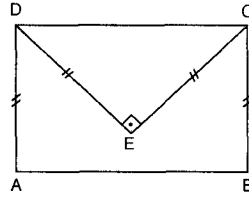
A) $4\sqrt{13}$ B) $3\sqrt{13}$ C) $2\sqrt{13}$
D) $4\sqrt{3}$ E) $3\sqrt{3}$

3. Şekilde ABCD dikdörtgen,
 $IA DI = 4 \text{ br}$,
 $IDBI = 8 \text{ br}$,
 $IAEI = 8 \text{ br}$ ise
 $m(\hat{BCE})$ kaç derecedir?



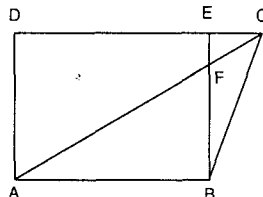
A) 10 B) 15 C) 20 D) 25 E) 30

4. Şekilde ABCD dikdörtgen,
 $[DE] \perp [CE]$,
 $IA DI = IDEI = ICEI = IBCI$,
 $A(ABCD) = 32\sqrt{2} \text{ br}^2$
ise **$IA BI$ kaç br'dir?**



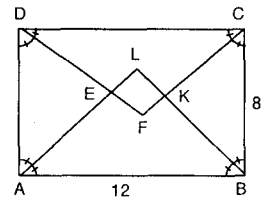
A) 12 B) 10 C) 9 D) 8 E) 6

5. Şekilde ABED dikdörtgen, D, E, C noktaları doğrusal,
 $\frac{IEFI}{IFBI} = \frac{1}{3}$ ise
 $\frac{A(ADC)}{A(ABC)}$ oranı nedir?



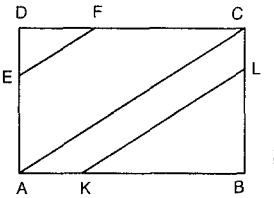
A) $\frac{4}{3}$ B) $\frac{5}{3}$ C) $\frac{5}{4}$ D) $\frac{5}{2}$ E) 3

6. Kenar uzunlukları
 $IA BI = 12 \text{ br}$,
 $IBCI = 8 \text{ br}$ olan
ABCD dikdörtgeninde
 $[DF]$, $[CF]$, $[AL]$ ve
 $[BL]$ açıortaydır.
 $\angle(EFKL)$ kaç br'dir?



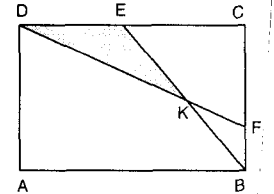
A) $4\sqrt{2}$ B) 8 C) $8\sqrt{2}$
D) 16 E) $12\sqrt{2}$

7. Şekilde ABCD dikdörtgen,
 $[EF] \parallel [AC] \parallel [KL]$,
 $\frac{IBKI}{IAKI} = \frac{3}{2}$
 $IFCI = 4IDFI$ ise **$\frac{IKLI}{IEFI}$ oranı nedir?**



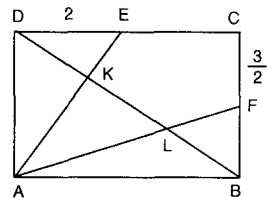
A) 5 B) 4 C) $\frac{7}{2}$ D) 3 E) $\frac{5}{2}$

8. Şekilde ABCD dikdörtgen,
 $IDEI = IECI$,
 $ICFI = 2IBFI$ ise
 $\frac{A(ABCD)}{A(DKE)}$ oranı nedir?



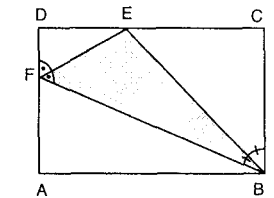
A) 3 B) $\frac{19}{4}$ C) 6 D) $\frac{15}{2}$ E) 8

9. Şekilde ABCD kare, E ve F orta nokta,
 $IDEI = 2 \text{ br}$,
 $ICFI = \frac{3}{2} \text{ br}$ ise
 $IDLI$ kaç br'dir?



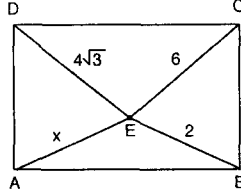
A) 2 B) $\frac{5}{2}$ C) $\frac{9}{4}$ D) $\frac{10}{3}$ E) $\frac{15}{4}$

10. Şekilde ABCD dikdörtgen,
 $m(\hat{DFE}) = m(\hat{EFB})$,
 $m(\hat{CBE}) = m(\hat{EBF})$,
 $IAFI = 5 \text{ br}$,
 $IA BI = 12 \text{ br}$ ise
 $A(FEB)$ kaç br^2 dir?



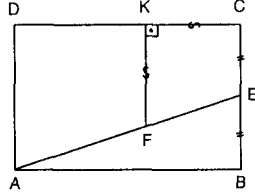
A) 36 B) 39 C) 42 D) 45 E) 48

11. Şekilde E, ABCD dikdörtgeninin içinde herhangi bir nokta, $IDEL = 4\sqrt{3}$ br, $ICEI = 6$ br, $IEBI = 2$ br ise $IAEI = x$ kaç br'dir?



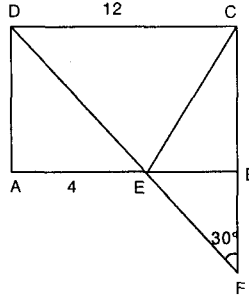
- A) $3\sqrt{2}$ B) 4 C) 5
D) $4\sqrt{2}$ E) 6

12. Şekilde ABCD dikdörtgen, $[KF] \perp [KC]$, $IKFI = IKCI$, $IBEI = ICEI$, $IABI = 12$ br, $IADI = 8$ br ise $IFEI$ kaç br'dir?



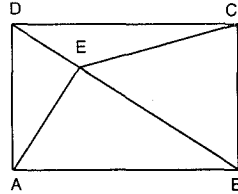
- A) $2\sqrt{3}$ B) 4 C) $4\sqrt{2}$
D) $2\sqrt{10}$ E) $3\sqrt{6}$

13. Şekilde ABCD dikdörtgen, $m(\angle CFE) = 30^\circ$, $IAEI = 4$ br, $IDCI = 12$ br ise $\Delta A(DEC)$ kaç br^2 dir?



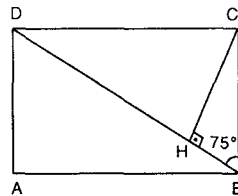
- A) 16 B) $12\sqrt{3}$ C) 30
D) $18\sqrt{3}$ E) $24\sqrt{3}$

14. Şekilde ABCD dikdörtgen, $\Delta A(ADE) = 9 br^2$, $\Delta A(EBC) = 25 br^2$ ise $\Delta A(ABCD)$ kaç br^2 dir?



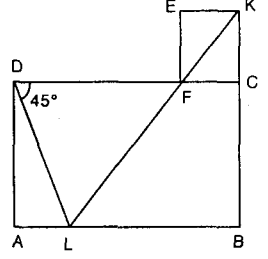
- A) 68 B) 64 C) 60 D) 56 E) 52

15. Şekilde ABCD dikdörtgen, $[CH] \perp [BD]$, $m(\angle CBD) = 75^\circ$, $IBDI = 24$ br ise $\Delta A(ABCD)$ kaç br^2 dir?



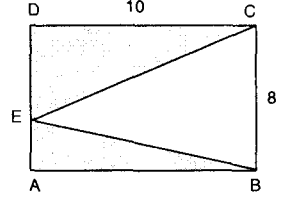
- A) 180 B) 160 C) 144 D) 120 E) 96

16. Şekilde ABCD dikdörtgen, EKFC karedir. $m(\angle LDF) = 45^\circ$, $IDLI = 4\sqrt{2}$ br, $IABI = 10$ br ise $IEKI$ kaç br'dir?



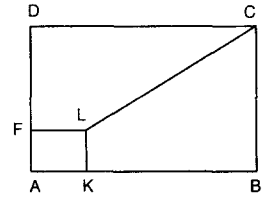
- A) 1 B) 2 C) $2\sqrt{2}$ D) 3 E) $3\sqrt{2}$

17. Şekilde ABCD dikdörtgen $IDCI = 10$ br, $IBCI = 8$ br ise taralı alanlar toplamı kaç br^2 dir?



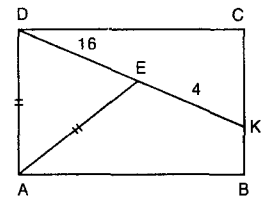
- A) 60 B) 56 C) 50 D) 40 E) 36

18. Şekilde ABCD dikdörtgen AKLF kare, $IABI = ICLI = 10$ br, $IBCI = 8$ br ise $\Delta A(AKLF)$ kaç br^2 dir?



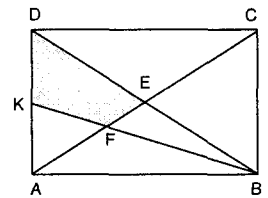
- A) 4 B) 8 C) 9 D) 16 E) 25

19. Şekilde ABCD dikdörtgen, $IADI = IAEI = 10$ br, $IDEL = 16$ br, $IEKI = 4$ br ise $\Delta A(ABCD)$ kaç br^2 dir?



- A) 96 B) 108 C) 112 D) 120 E) 128

20. Şekilde ABCD dikdörtgen, $IAKI = 2IKDI$ ve $\Delta A(DKFE) = 21 br^2$ ise $\Delta A(ABCD)$ kaç br^2 dir?

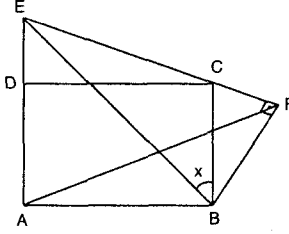


- A) 152 B) 168 C) 175 D) 180 E) 196

DİKDÖRTGEN

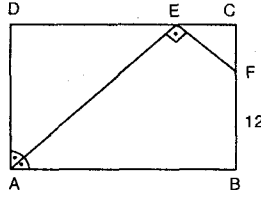
TEST 4

1. Şekilde ABCD dikdörtgen, EAF eşkenar üçgen, $[EF] \perp [BF]$, $m(\angle EBC) = x$ kaç derecedir?



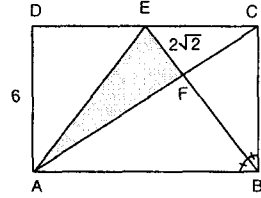
A) 40 B) 35 C) 30 D) 25 E) 15

2. Şekilde ABCD dikdörtgen, $[AE] \perp [EF]$, $IAEI = 4IEFI$, $IBFI = 12$ br ise $A(ABCD)$ kaç br^2 'dir?



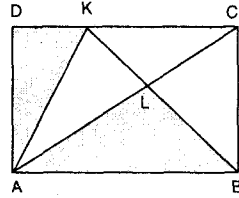
A) 360 B) 320 C) 300 D) 280 E) 240

3. Şekilde ABCD dikdörtgen, $[BE]$ açıortay, $IA DI = 6$ br, $IEFI = 2\sqrt{2}$ br ise $A(EAF)$ kaç br^2 'dir?



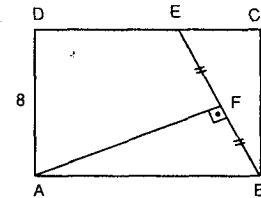
A) $4\sqrt{2}$ B) $5\sqrt{2}$ C) 8
D) $6\sqrt{2}$ E) 12

4. Şekilde ABCD dikdörtgen, $A(\triangle ALB) = 12$ br², $A(\triangle ADK) = 9$ br² ise $A(ABCD)$ kaç br² dir?



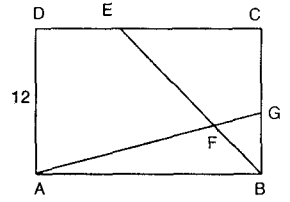
A) 64 B) 45 C) 42 D) 36 E) 32

5. Şekilde ABCD dikdörtgen, $[AF] \perp [BE]$, $IEFI = IFBI$, $IA DI = 8$ br, $IEBI = 10$ br ise $IEDI$ kaç br'dir?



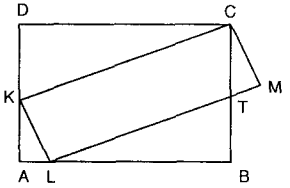
A) $\frac{7}{3}$ B) $\frac{8}{3}$ C) 3 D) 4 E) 5

6. Şekilde ABCD dikdörtgen, $IBGI = 2IGCI$, $IECI = 3IDEI$ ve $IA DI = 12$ br ise $IDEI = \sqrt{5}$ br $IAFI$ kaç br'dir?



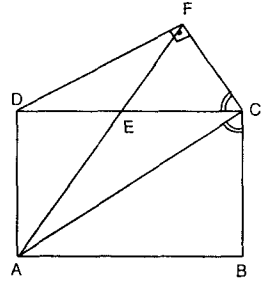
A) 10 B) 9 C) 8 D) 7 E) 6

7. Şekilde ABCD ve KLMC dikdörtgen, $IDKI = 12$ br, $ICTI = 3$ br ise $A(KLMC)$ kaç br² dir?



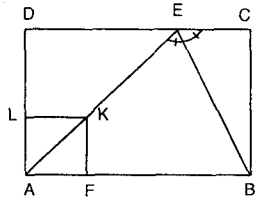
A) 48 B) 40 C) 38 D) 36 E) 24

8. Şekilde ABCD dikdörtgen, $m(\angle DFC) = 90^\circ$, $m(\angle FCD) = m(\angle ACB)$, $A(\triangle FDE) = 3$ br², $A(\triangle FEC) = 6$ br² ise $A(ABCD)$ kaç br² dir?



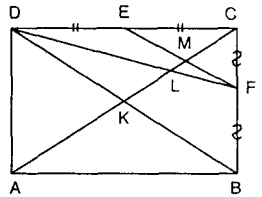
A) 36 B) 40 C) 42 D) 48 E) 60

9. Şekilde ABCD dikdörtgen, AFKL karedir. $m(\angle AEB) = m(\angle BEC)$, $IALI = IDLI$ ise $\frac{ICEI}{IA DI}$ oranı nedir?



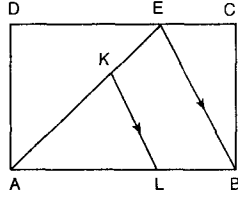
A) $\sqrt{3}$ B) $\sqrt{3} - 1$ C) $\sqrt{2} + 1$
D) $\sqrt{2}$ E) $\sqrt{2} - 1$

10. Şekilde ABCD dikdörtgen, E ve F orta nokta, $IAKI = 12$ br ise $IMLI$ kaç br'dir?



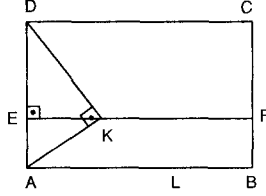
A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

11. Şekilde ABCD dikdörtgen, $|AK| = 2|KE|$ ve $[KL] \parallel [EB]$ ise $\frac{A(KLBE)}{A(ABCD)}$ oranı nedir?



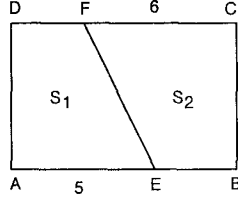
- A) $\frac{1}{3}$ B) $\frac{5}{18}$ C) $\frac{2}{9}$ D) $\frac{3}{17}$ E) $\frac{1}{6}$

12. Şekilde ABCD dikdörtgen, $[DK] \perp [AK]$, $[EF] \perp [AD]$, $|DE| = 3|EA|$ ve $|EK| = 2\sqrt{3}$ br ise $|AD|$ kaç br'dir?



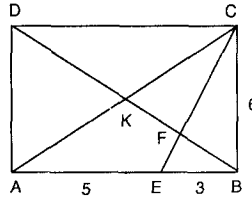
- A) 10 B) 9 C) 8 D) 7 E) 6

13. Şekilde ABCD dikdörtgen, S_1 ve S_2 bulundukları bölgelerin alanları, $|AE| = 5$ br, $|FC| = 6$ br ve $\frac{S_1}{S_2} = \frac{7}{9}$ ise $|DF|$ kaç br'dir?



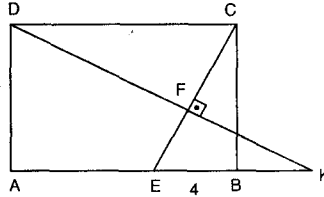
- A) 6 B) 5 C) 4 D) 3 E) 2

14. Şekilde ABCD dikdörtgen, $|AE| = 5$ br, $|EB| = 3$ br ve $|BC| = 6$ br ise $|IKFI|$ kaç br'dir?



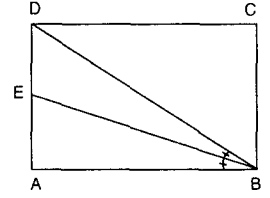
- A) $\frac{25}{11}$ B) $\frac{5}{2}$ C) 3 D) $\frac{20}{7}$ E) $\frac{35}{9}$

15. Şekilde ABCD dikdörtgen, $[DK] \perp [CE]$, $|EB| = 4$ br, $|AK| = 9$ br ise $|AD|$ kaç br'dir?



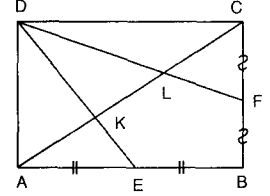
- A) 4 B) 5 C) $4\sqrt{2}$ D) 6 E) 8

16. Şekilde ABCD dikdörtgen, $[BE]$ açıortay, $|DE| = 3|EA|$, $|DB| = 12$ br ise $|EB|$ kaç br'dir?



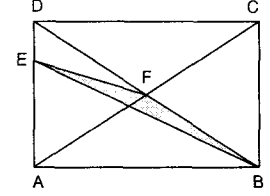
- A) $3\sqrt{6}$ B) $4\sqrt{3}$ C) $4\sqrt{2}$
D) $2\sqrt{6}$ E) 5

17. Şekilde ABCD dikdörtgen, E ve F orta nokta $|KL| = 2\sqrt{3}$ br, $|AB| = 8$ br ise $|BC|$ kaç br'dir?



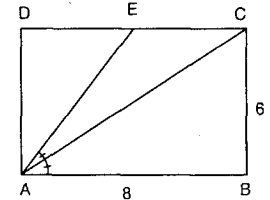
- A) $8\sqrt{2}$ B) 7 C) $4\sqrt{3}$
D) $2\sqrt{11}$ E) $2\sqrt{10}$

18. Şekilde ABCD dikdörtgen, $|AD| = 4|DE|$, $A(ABCD) = 48$ br² ise $A(\triangle EFB)$ kaç br² dir?



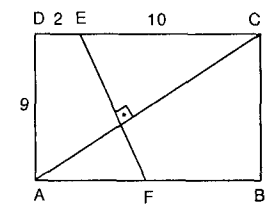
- A) 2 B) 3 C) 4 D) 6 E) 8

19. Şekilde ABCD dikdörtgen, $m(\angle EAC) = m(\angle CAB)$, $|AB| = 8$ br, $|BC| = 6$ br ise $|AE|$ kaç br'dir?



- A) $\frac{25}{4}$ B) $\frac{13}{2}$ C) $\frac{27}{4}$ D) 7 E) $\frac{15}{2}$

20. Şekilde ABCD dikdörtgen, $[AC] \perp [FE]$, $|DE| = 2$ br, $|EC| = 10$ br ve $|AD| = 9$ br ise $|EF|$ kaç br'dir?



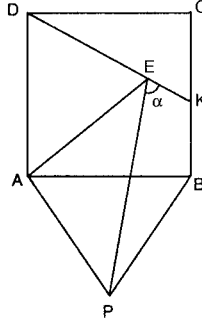
- A) $\frac{48}{5}$ B) 11 C) $\frac{45}{4}$ D) 12 E) 15

KARE

TEST

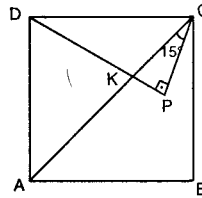
1

1. Şekilde ABCD kare, AED ve ABP eşkenar üçgen ise $m(\widehat{PEK}) = \alpha$ kaç derecedir?



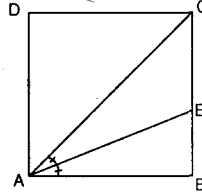
A) 75 B) 60 C) 45 D) 30 E) 15

2. Şekilde ABCD kare, $[DP] \perp [DC]$, $m(\widehat{ACP}) = 15^\circ$, $IPCI = 4\sqrt{2}$ br ise $IACI$ kaç br dir?



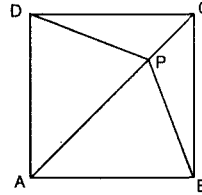
A) $8\sqrt{2}$ B) 12 C) $10\sqrt{2}$ D) 15 E) 16

3. Şekilde ABCD kare, $m(\widehat{CAE}) = m(\widehat{EAB})$, $IECI = 2\sqrt{2}$ br ise $A(ABCD)$ kaç br² dir?



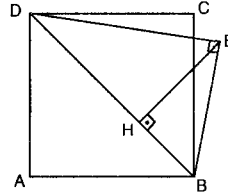
A) $12 + 6\sqrt{2}$ B) $8 + 8\sqrt{2}$ C) $8 + 12\sqrt{2}$ D) $12 + 8\sqrt{2}$ E) $12 + 12\sqrt{2}$

4. Şekilde ABCD kare, $m(\widehat{PBC}) = 15^\circ$ ve $IPCI = 4$ br ise $IAP I$ kaç br dir?



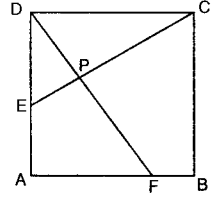
A) $4\sqrt{3} + 6$ B) $2\sqrt{3} + 12$ C) $4\sqrt{3} + 2$ D) $2\sqrt{3} + 8$ E) $4\sqrt{3} + 8$

5. Şekilde ABCD kare, $[DE] \perp [BE]$, $[EH] \perp [BD]$, $m(\widehat{CBE}) = 30^\circ$, $IEHI = 2\sqrt{2}$ br ise $IABI$ kaç br dir?



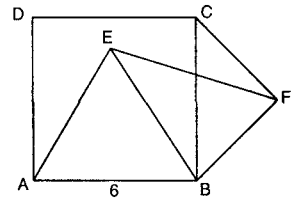
A) $4\sqrt{3}$ B) $6\sqrt{2}$ C) 8 D) $8\sqrt{2}$ E) 16

6. Şekilde ABCD kare, $IAEI = IFBI$, $IEPI = 4$ br, $IPCI = 9$ br ise $IPFI$ kaç br dir?



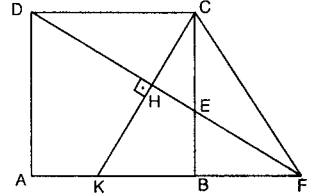
A) 6 B) 7 C) 8 D) 9 E) 10

7. Şekilde ABCD kare, EAB ve FBC eşkenar üçgen, $IABI = 6$ br ise $IEFI$ kaç br dir?



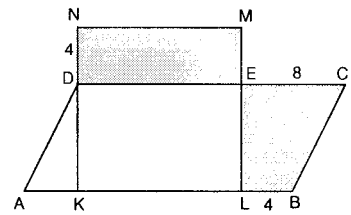
A) 6 B) $6\sqrt{2}$ C) 10 D) $9\sqrt{2}$ E) $10\sqrt{2}$

8. Şekilde ABCD kare, $[CK] \perp [DF]$, $IBKI = 3$ br, $IAFI = 12$ br ise $A(\triangle FCD)$ kaç br² dir?



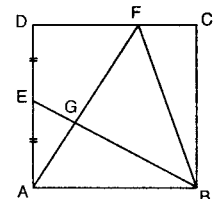
A) 12 B) 18 C) 25 D) 36 E) 49

9. Şekilde ABCD paralelkenar, KLMN kare, $IDNI = 4$ br, $ILBI = 4$ br, $IECI = 8$ br ve $A(DNME) = A(BCLE)$ ise $A(ABCD)$ kaç br² dir?



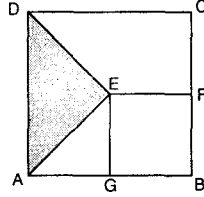
A) 120 B) 130 C) 140 D) 150 E) 160

10. Şekilde ABCD kare, $IAEI = IDEI$, $A(\triangle AEG) = 5$ br², $A(\triangle GFB) = 30$ br² ise $IABI$ kaç br dir?



A) 8 B) 9 C) 10 D) 11 E) 12

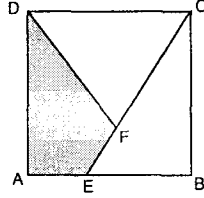
11. Şekilde ABCD kare,
 $[EF] \parallel [AB]$,
 $[EG] \parallel [BC]$,
 $IDEI = IAEI$,
 $IEFI = a$ br,
 $IEGI = b$ br ise



Δ
A(DEA) kaç br^2 dir?

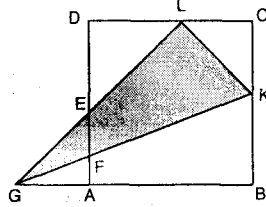
- A) $2ab$ B) $a(b-2a)$ C) $a(a+b)$
D) $b(2b-a)$ E) $b(2a-b)$

12. Şekilde ABCD kare,
 $IABI = 3IAEI$,
 $IECI = 3IEFI$,
 $IBCI = 9$ br ise
A(AEFD) kaç br^2 dir?



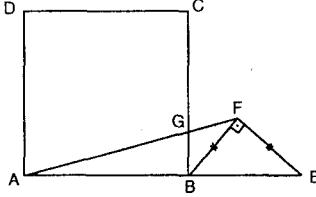
- A) 27 B) 30 C) 36 D) 42 E) 45

13. Şekilde ABCD kare,
E, L, K orta nokta,
 $IGAI = IKBI = 6$ br ise
 Δ
A(GLK) kaç br^2 dir?



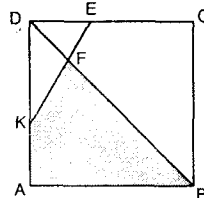
- A) 60 B) 72 C) 80 D) 84 E) 90

14. Şekilde ABCD kare,
 $[BF] \perp [FE]$,
 $IBFI = IFEI$,
 $IABI = 2IBEI = 4$ br
ise **IGFI kaç br dir?**



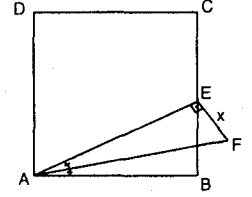
- A) 5 B) $\frac{\sqrt{26}}{5}$ C) $\frac{4\sqrt{7}}{5}$
D) $\frac{3\sqrt{11}}{5}$ E) $\frac{2\sqrt{29}}{5}$

15. Şekilde ABCD kare,
 $IDKI = 2IAKI = 2IDEI = 4$ br,
ise **taralı alan kaç br^2 dir?**



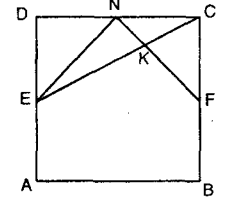
- A) 15 B) 16 C) 18 D) $\frac{46}{3}$ E) $\frac{64}{5}$

16. Şekilde ABCD kare,
 $[AF]$ açıortay,
 $[AE] \perp [EF]$,
 $ICEI = IEBI = 2$ br ise
IEFI = x kaç br dir?



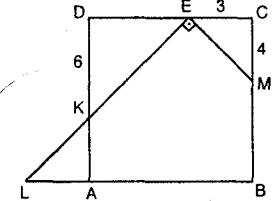
- A) $5 - \sqrt{5}$ B) $4 - \sqrt{5}$ C) $8 - 2\sqrt{5}$
D) $6 - 2\sqrt{5}$ E) $10 - 4\sqrt{5}$

17. Şekilde ABCD kare,
E, N, F orta nokta,
 $INKI = 2$ br ise
IEKI kaç br dir?



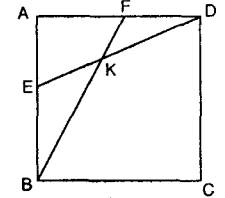
- A) $2\sqrt{10}$ B) $2\sqrt{5}$ C) $5\sqrt{2}$
D) 6 E) 7

18. Şekilde ABCD kare,
 $[EL] \perp [EM]$,
 $ICMI = 4$ br,
 $IECI = 3$ br,
 $IDKI = 6$ br ise
 Δ
A(KLA) kaç br^2 dir?



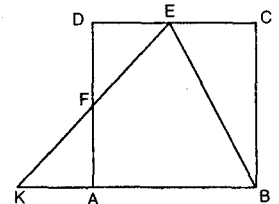
- A) $\frac{50}{3}$ B) $\frac{40}{3}$ C) 10 D) $\frac{20}{3}$ E) $\frac{10}{3}$

19. Şekilde ABCD kare,
 $IAFI = IFDI$,
 $IAEI = 2IEBI$ ise
 $\frac{A(ABKD)}{A(BCDK)}$ oranı nedir?



- A) $\frac{13}{24}$ B) $\frac{5}{12}$ C) $\frac{4}{9}$ D) $\frac{3}{5}$ E) $\frac{1}{3}$

20. Şekilde ABCD kare,
EKB eşkenar üçgen
ise $\frac{A(FED)}{A(FKA)}$ oranı
nedir?



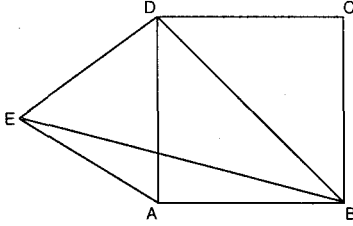
- A) $4 + 2\sqrt{3}$ B) $3 + \sqrt{3}$ C) $2 + \sqrt{3}$
D) $3\sqrt{3}$ E) $3 - \sqrt{3}$

KARE

TEST

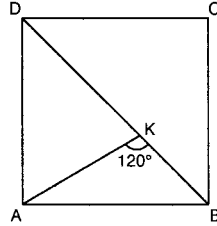
2

1. Şekilde ABCD kare, DEA eşkenar üçgen ise, $m(\widehat{DBE})$ kaç derecedir?



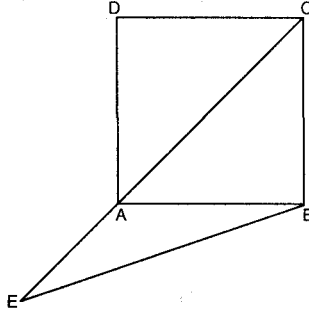
A) 15 B) 20 C) 22,5 D) 30 E) 37,5

2. Şekilde ABCD kare, $m(\widehat{AKB}) = 120^\circ$ $IAKI = 12$ br ise, $IKBI$ kaç br dir?



A) $2\sqrt{3} + 3$ B) $3\sqrt{3} - 3$ C) $6\sqrt{3} - 12$
D) $3\sqrt{3} + 3$ E) $6\sqrt{3} - 6$

3. Şekilde ABCD kare, E, A, C noktaları doğrusal, $IEAI = IACI$, $IABI = \sqrt{10}$ br ise $IEBI$ kaç br dir?

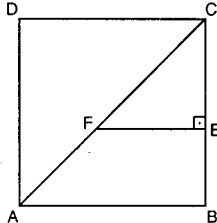


A) 10 B) $6\sqrt{2}$ C) 6 D) $5\sqrt{2}$ E) 5

4. Bir karenin çevrel çemberinin yarıçapının, iç teğet çemberinin yarıçapına oranı nedir?

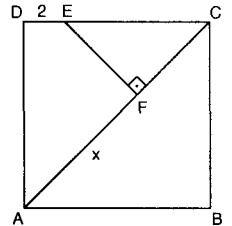
A) $3\sqrt{2}$ B) $2\sqrt{2}$ C) 2 D) $\sqrt{2}$ E) $\frac{\sqrt{2}}{2}$

5. Şekilde ABCD kare, $[FE] \perp [BC]$, $A(ABEF) = 8$ br², $IDCI = 5$ br ise, $IFCI$ kaç br dir?



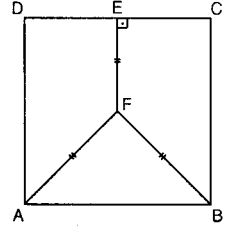
A) 2 B) 3 C) $2\sqrt{2}$ D) $3\sqrt{2}$ E) $4\sqrt{2}$

6. Şekilde ABCD kare, $[EF] \perp [AC]$, $IABI = 8$ br, $IDEI = 2$ br ise, $IAFI = x$ kaç br dir?



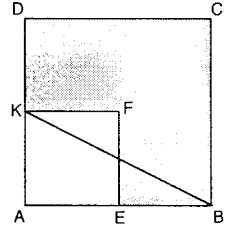
A) $4\sqrt{2}$ B) 6 C) $5\sqrt{2}$ D) 8 E) $6\sqrt{2}$

7. Şekilde ABCD kare, $[EF] \perp [DC]$, $IEFI = IAFI = IFBI = 5$ br ise, $A(ABCD)$ kaç br² dir?



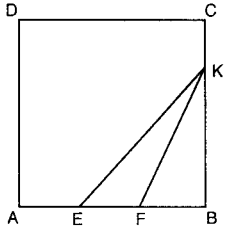
A) 64 B) 60 C) 56 D) 48 E) 40

8. Şekilde ABCD ve KAEF kare, taralı alan 8 cm² ve $IKBI = 2\sqrt{3}$ cm ise, $IAEI$ kaç cm dir?



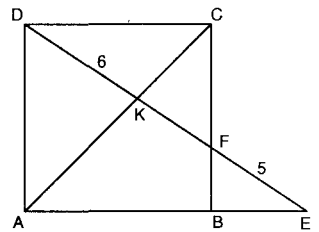
A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) 2 E) $\frac{2\sqrt{2}}{2}$

9. Şekilde ABCD kare, $IAEI = 2IEFI = 2IFBI$, $IBCI = 4IKCI$ ise, $\frac{A(ABCD)}{A(KEF)}$ oranı nedir?



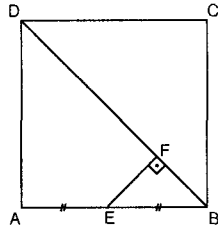
A) $\frac{16}{3}$ B) $\frac{19}{3}$ C) 8 D) 10 E) $\frac{32}{3}$

10. Şekilde ABCD kare, $IDKI = 6$ br, $IFEI = 5$ br ise, $\frac{A(BFE)}{A(ADK)}$ oranı nedir?



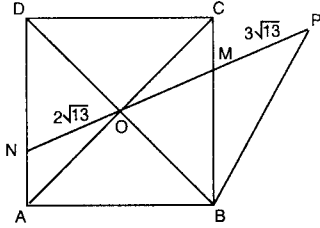
A) $\frac{5}{18}$ B) $\frac{1}{3}$ C) $\frac{7}{18}$ D) $\frac{4}{9}$ E) $\frac{5}{9}$

11. Şekilde ABCD kare,
 $[EF] \perp [BD]$,
 $|AE| = |EB|$ ise,
 $\frac{|DF|}{|FB|}$ oranı nedir?



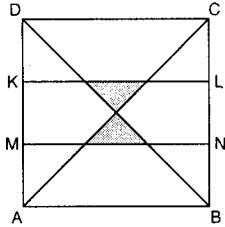
- A) $\sqrt{2}$ B) 2 C) $2\sqrt{2}$ D) 3 E) 4

12. Şekilde ABCD kare,
 N, O, M, P noktaları doğrusal,
 $[BP] \parallel [AC]$,
 $|ON| = 2\sqrt{13}$ br,
 $|MP| = 3\sqrt{13}$ br,
 $|BP| = 4$ br ise,
 $A(ABCD)$ kaç br^2 dir?



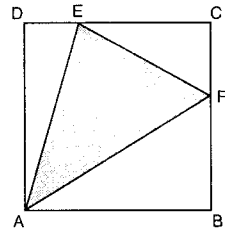
- A) 140 B) 160 C) 180 D) 200 E) 240

13. Şekilde ABCD kare,
 $[KL] \parallel [MN] \parallel [AB]$,
 $|BN| = |LC| = 2$ br,
 $|AB| = 8$ br ise,
 taralı alanlar toplamı kaç br^2 dir?



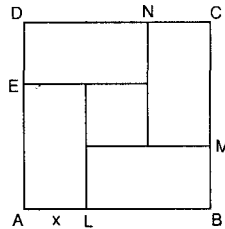
- A) 4 B) 6 C) 8 D) 12 E) 16

14. Şekilde ABCD kare,
 $|EC| = 3|DE|$,
 $|BF| = |FC|$ ve
 $A(\triangle AEF) = 35$ br^2 ise,
 $A(ABCD)$ kaç br^2 dir?



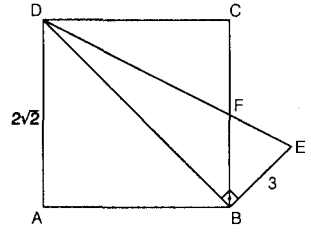
- A) 90 B) 80 C) 72 D) 64 E) 56

15. Şekildeki ABCD karesi birbirine eş dört dikdörtgene ayrılmıştır. Oluşan beş parçanın alanları eşit ve
 $|AB| = 1$ br ise,
 $|AL| = x$ kaç br dir?



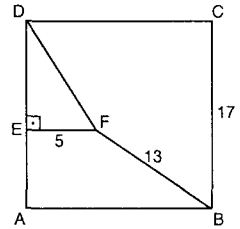
- A) $\frac{1}{4}$ B) $\frac{2}{3}$ C) $\frac{3+\sqrt{6}}{6}$
 D) $\frac{3-\sqrt{3}}{6}$ E) $\frac{5-\sqrt{5}}{10}$

16. Şekilde ABCD kare,
 $[DB] \perp [BE]$,
 $|AD| = 2\sqrt{2}$ br,
 $|BE| = 3$ br ise,
 $|DF|$ kaç br dir?



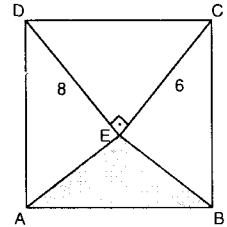
- A) 4 B) $\frac{18}{7}$ C) $\frac{17}{6}$ D) $\frac{20}{7}$ E) $\frac{15}{7}$

17. Şekilde ABCD kare,
 $[FE] \perp [AB]$,
 $|BC| = 17$ br,
 $|FB| = 13$ br,
 $|EF| = 5$ br ise,
 $|DF|$ kaç br dir?



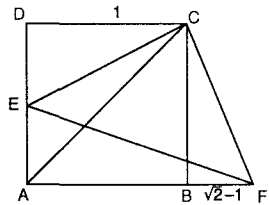
- A) 15 B) 14 C) 13 D) 12 E) 10

18. Şekilde ABCD kare,
 $[DE] \perp [EC]$,
 $|DE| = 8$ br,
 $|EC| = 6$ br ise,
 $A(\triangle ABE)$ kaç br^2 dir?



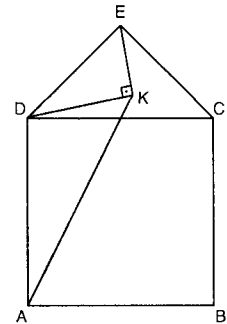
- A) 64 B) 52 C) 32 D) 26 E) 24

19. Şekilde ABCD kare,
 $|DE| = |BF| = \sqrt{2} - 1$ br,
 $|DC| = 1$ br ise,
 $m(\angle ACF)$ kaç derecedir?



- A) 30 B) 45 C) 60 D) 67,5 E) 90

20. Şekilde ABCD kare,
 EDC eşkenar üçgen,
 EDK ikizkenar dik üçgen
 ise, $m(\angle DAK)$ kaç derecedir?

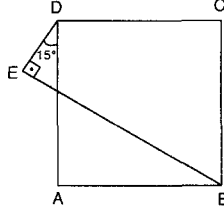


- A) 15 B) 20 C) 22,5 D) 30 E) 37,5

KARE

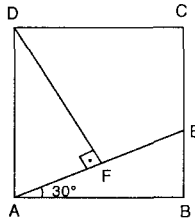
TEST 3

1. Şekilde ABCD kare, $[DE] \perp [BE]$, $m(\widehat{EDA}) = 15^\circ$, $IDEI = 2$ br ise $\angle(ABCD)$ kaç br'dir?



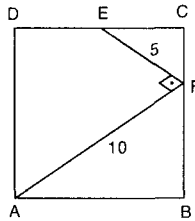
- A) $4\sqrt{2}$ B) 8 C) $8\sqrt{2}$
D) 16 E) $16\sqrt{2}$

2. Şekilde ABCD kare, $[DF] \perp [AE]$, $m(\widehat{EAB}) = 30^\circ$, $IDFI = 3$ br ise $IEFI$ kaç br'dir?



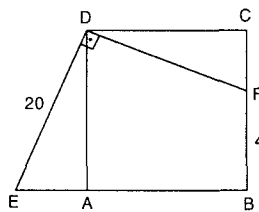
- A) $\sqrt{3}$ B) $2\sqrt{3}$ C) 4
D) $4-\sqrt{3}$ E) $6-2\sqrt{3}$

3. Şekilde ABCD karedir. $[EF] \perp [AF]$, $IEFI = 5$ br, $IAFI = 10$ br ise $A(ABCD)$ kaç br² dir?



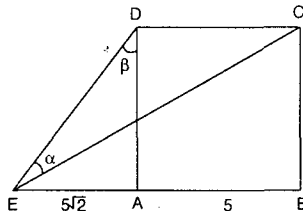
- A) 80 B) 75 C) 60 D) 50 E) 40

4. Şekilde ABCD kare, $[ED] \perp [DF]$, $IEDI = 20$ br, $IFBI = 4$ br ise $A(ABCD)$ kaç br² dir?



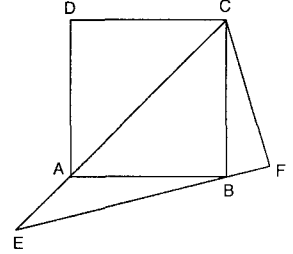
- A) 144 B) 169 C) 196 D) 225 E) 256

5. Şekilde ABCD kare, E, A, B noktaları doğrusal, $m(\widehat{EDA}) = \beta$, $m(\widehat{DEC}) = \alpha$, $IABI = 5$ br, $IEAI = 5\sqrt{2}$ br ise $\alpha + \beta$ kaç derecedir?



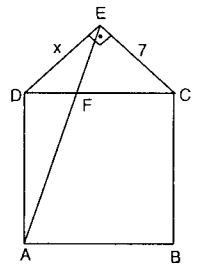
- A) 72,5 B) 67,5 C) 62,5 D) 60 E) 45

6. Şekilde ABCD kare, E, B, F doğrusal, $IACI = \sqrt{2} IAEI$, $ICFI = ICBI$ ise $\frac{IEBI}{IBFI}$ oranı nedir?



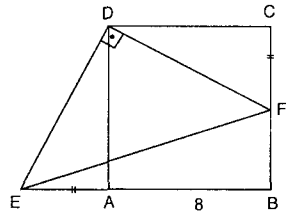
- A) $\sqrt{2}-1$ B) $\sqrt{3}-1$ C) $\sqrt{2}+1$
D) 2 E) $\sqrt{3}+1$

7. Şekilde ABCD kare, $[DE] \perp [EC]$, $IAEI = 13$ br, $IECI = 7$ br ise $IDEI = x$ kaç br'dir?



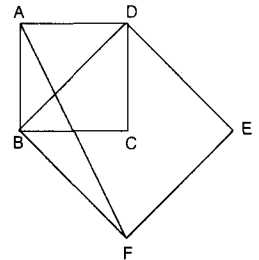
- A) 5 B) 6 C) 7 D) 8 E) 9

8. Şekilde ABCD kare, $[DE] \perp [DF]$, $IEAI = ICFI$, $\Delta A(DEF) = 50$ cm², $IABI = 8$ cm ise $IBFI$ kaç cm'dir?



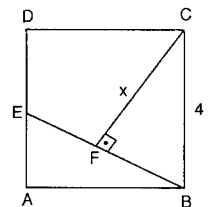
- A) 6 B) 5 C) 4 D) 3 E) 2

9. Şekilde ABCD ve DEFD kare, $IABI = 4$ br ise $\Delta A(ABF)$ kaç br² dir?



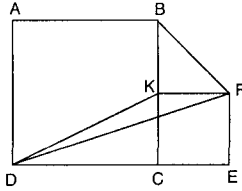
- A) 4 B) $4\sqrt{2}$ C) 8 D) $8\sqrt{2}$ E) 12

10. Şekilde ABCD kare, $[CF] \perp [EB]$, $IEBI = 5$ cm, $ICBI = 4$ cm ise $IFCI = x$ kaç cm'dir?



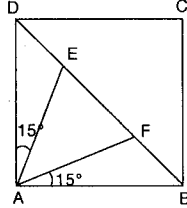
- A) $\frac{12}{5}$ B) $\frac{14}{5}$ C) $\frac{16}{5}$ D) $\frac{18}{5}$ E) $\frac{19}{5}$

11. Şekilde ABCD ve CEFK kare,
IBFI = 12 br,
IDFI = 20 br ise
 Δ
A(DKC) kaç br² dir?



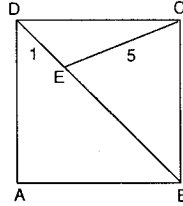
A) 24 B) 32 C) 40 D) 56 E) 64

12. Şekilde ABCD kare,
 $m(\hat{D\hat{A}E}) = m(\hat{F\hat{A}B}) = 15^\circ$,
IEFI = 4 br ise
IDEI kaç br'dir?



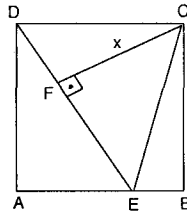
A) $2 + \sqrt{3}$ B) $2\sqrt{3}$ C) 2
D) $2\sqrt{3} - 2$ E) $\sqrt{3} - 1$

13. Şekilde ABCD kare,
D, E, B noktaları doğrusal,
IECI = 5 br,
IDEI = 1 br ise
 Δ
A(DEC) kaç br² dir?



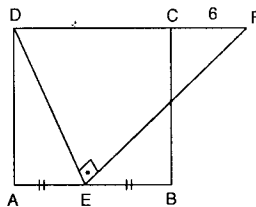
A) 1 B) 2 C) 3 D) 4 E) 6

14. Şekilde ABCD kare,
[CF] $\perp$ [DE],
A(ABCD) = 108 br²,
 $\frac{IAEI}{IEBI} = \frac{1}{\sqrt{3} - 1}$ ise
ICFI = x kaç br'dir?



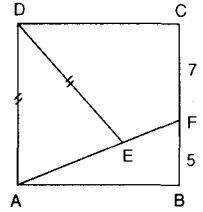
A) 4 B) 6 C) 9 D) 12 E) 15

15. Şekilde ABCD kare,
[DE] $\perp$ [EF],
IAEI = IEBI
ICFI = 6 br ise
A(ABCD) kaç
br² dir?



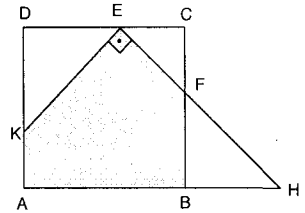
A) 16 B) 25 C) 36 D) 49 E) 64

16. Şekilde ABCD kare,
IADI = IDEI,
IBFI = 5 br,
ICFI = 7 br ise
IEFI kaç br'dir?



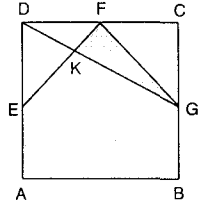
A) $\frac{120}{13}$ B) $\frac{96}{13}$ C) $\frac{56}{13}$ D) 4 E) $\frac{49}{13}$

17. Şekilde ABCD kare,
[KE] $\perp$ [EH],
IDEI = ICFI,
IDKI = 6 br,
IBHI = 9 br ise
taralı alan kaç
br² dir?



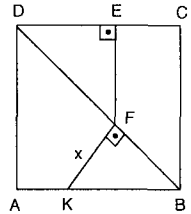
A) 82 B) 80 C) 76 D) 72 E) 68

18. Şekilde ABCD kare,
E, F, G orta nokta ise
A(ABCD) oranı nedir?
 Δ
A(KFG)



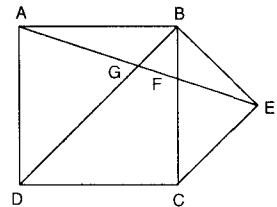
A) 12 B) 10 C) 9 D) 8 E) 6

19. Şekilde ABCD kare,
[EF] $\perp$ [DC],
[KF] $\perp$ [DB],
IKBI = 2IAKI,
IEFI = 12 br ise
IKFI = x kaç br'dir?



A) $4\sqrt{2}$ B) $5\sqrt{2}$ C) $6\sqrt{2}$ D) 10 E) 12

20. Şekilde ABCD kare,
BCE eşkenar
üçgen,
IAEI = 12 br ise
IGEI kaç br'dir?

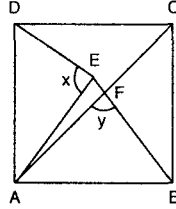


A) $6 + \sqrt{3}$ B) $8 - 2\sqrt{3}$ C) $8 + 2\sqrt{2}$
D) $6\sqrt{3}$ E) $4\sqrt{3}$

KARE

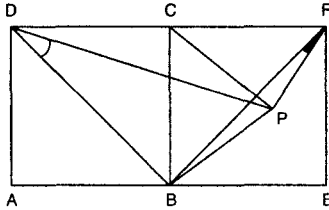
TEST 4

1. Şekilde ABCD kare,
ABE eşkenar üçgen,
 $m(\hat{D\hat{E}A}) = x$,
 $m(\hat{A\hat{F}B}) = y$ ise
 $x + y$ kaç derecedir?



A) 150 B) 145 C) 120 D) 105 E) 90

2.

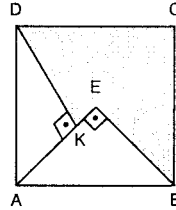


Şekilde ABCD ve BEFC kare, BPC eşkenar üçgen

ise $\frac{m(\hat{BDP})}{m(\hat{BFP})}$ oranı nedir?

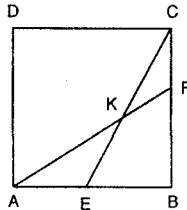
A) 3 B) $\frac{5}{2}$ C) 2 D) $\frac{3}{2}$ E) 1

3. Şekildeki ABCD kare,
[DK] $\perp$ [AE],
[AE] $\perp$ [EB],
IAKI = 4 br,
IKEI = 1 br ise
taralı alan kaç br²dir?



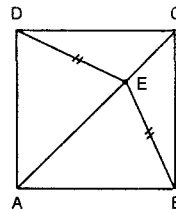
A) 25 B) 24 C) 23 D) 22 E) 21

4. Şekilde ABCD kare,
IEBI = 2IAEI,
IBCI = 3IFCI ve
 $m(\hat{ECB}) = 35^\circ$ ise
 $m(\hat{EKF})$ kaç derecedir?



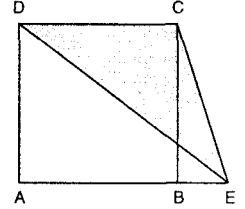
A) 120 B) 135 C) 150 D) 160 E) 165

5. Şekilde E, ABCD
karesinin [AC] köşegeni
üzerinde bir noktadır.
IAEI = $6\sqrt{2}$ br,
IBEI = IDEI = $2\sqrt{10}$ br ise
A(ABCD) kaç br² dir?



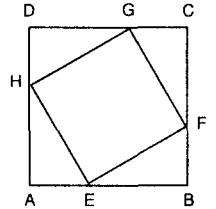
A) 49 B) 64 C) 81 D) 100 E) 121

6. Şekilde ABCD kare,
 $\triangle A(ECD) = 72 \text{ br}^2$ ise
IABI kaç br'dir?



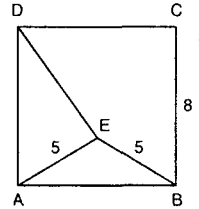
A) 10 B) 12 C) 16 D) 18 E) 24

7. Şekilde ABCD ve EFGH
kare, $\frac{IAEI}{IEBI} = \frac{1}{4}$ ise
 $\frac{A(EFGH)}{A(ABCD)}$ oranı nedir?



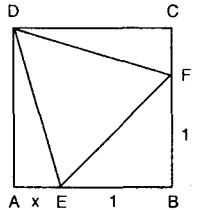
A) $\frac{16}{25}$ B) $\frac{17}{25}$ C) $\frac{18}{25}$ D) $\frac{19}{25}$ E) $\frac{21}{25}$

8. Şekilde ABCD kare,
IAEI = IEBI = 5 br,
IBCI = 8 br ise
IDEI kaç br'dir?



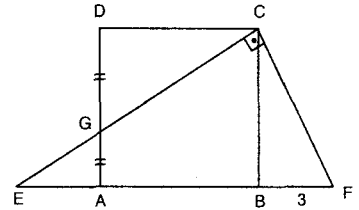
A) 6 B) $\sqrt{39}$ C) $\sqrt{41}$ D) $4\sqrt{3}$ E) $2\sqrt{13}$

9. Şekilde ABCD kare,
IBFI = IBEI = 1 br,
DEF eşkenar üçgen ise
IAEI = x kaç br'dir?



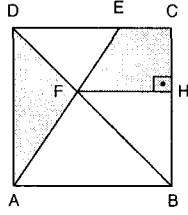
A) $\sqrt{3} + 1$ B) $\frac{\sqrt{3}+1}{2}$ C) $\frac{1}{2}$
D) $\sqrt{3} - 1$ E) $\frac{\sqrt{3}-1}{2}$

10. Şekilde
ABCD kare,
[EC] $\perp$ [CF],
IAGI = IDGI,
IBFI = 3 br
ise IDCİ kaç
br'dir?



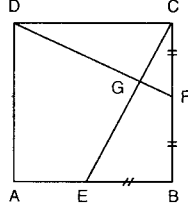
A) 5 B) 6 C) 7 D) 8 E) 9

11. Şekilde ABCD kare,
 $[FH] \perp [BC]$,
 $IDEI = 2IECI$,
 $IFHI = 6 \text{ br}$ ise
taralı alanlar toplamı kaç br^2 dir?



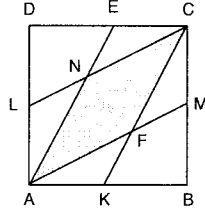
- A) 52 B) 48 C) $\frac{128}{3}$ D) $\frac{116}{3}$ E) $\frac{104}{3}$

12. Şekilde ABCD kare,
 $IEBI = IBFI = IFCI$,
 $IEGI = 3\sqrt{5} \text{ br}$ ise
 $IADI$ kaç br 'dir?



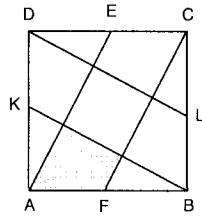
- A) $5\sqrt{2}$ B) 10 C) 12 D) $5\sqrt{6}$ E) 15

13. Şekilde ABCD kare,
K, L, E, M orta nokta ise
 $\frac{A(ANCF)}{A(ABCD)}$ oranı nedir?



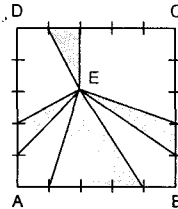
- A) $\frac{1}{3}$ B) $\frac{1}{4}$ C) $\frac{3}{8}$ D) $\frac{1}{2}$ E) $\frac{5}{9}$

14. Şekilde ABCD kare,
 $IBLI = ICLI$,
 $IAKI = IKDI$,
 $IDEI = 3IECI$ ve
 $IFBI = 3IAFI$ dir.
Taralı alan 7 br^2 ise $A(ABCD)$ kaç br^2 dir?



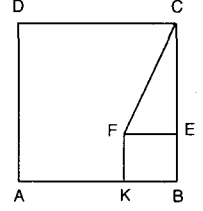
- A) 64 B) 72 C) 81 D) 88 E) 100

15. Şekildeki ABCD karesinin tüm kenarları 5 eşit parçaya bölünmüştür. E, karenin içinde herhangi bir nokta ve taralı alanlar toplamı 40 br^2 ise **$A(ABCD)$ kaç br^2 dir?**



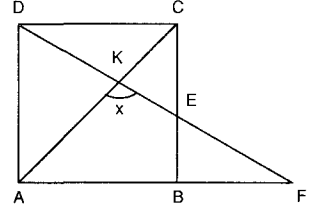
- A) 100 B) 125 C) 150 D) 160 E) 200

16. Şekilde ABCD ve FKBE kare,
 $IFCI = 3\sqrt{2} \text{ br}$ ve
 $A(ABCD) + 2A(FEBK) = 25 \text{ br}^2$
ise **$IABI \cdot IEFI$ çarpımı kaç br^2 dir?**



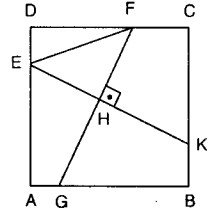
- A) 4 B) $\frac{7}{2}$ C) 3 D) $\frac{5}{2}$ E) 2

17. Şekilde ABCD kare, $2IACI = IEFI$
ise **$m(\angle KAF) = x$ kaç derecedir?**



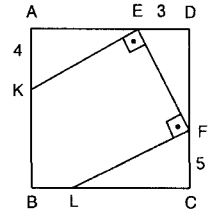
- A) 165 B) 150 C) 144 D) 135 E) 120

18. Şekilde ABCD kare,
 $[EK] \perp [GF]$,
 $IEFI = 5 \text{ br}$,
 $IFHI = 3 \text{ br}$,
 $IHKI = 6 \text{ br}$ ise
 $IGHI$ kaç br 'dir?



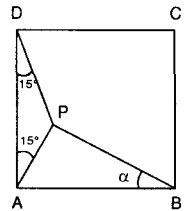
- A) 5 B) 6 C) 7 D) 8 E) 9

19. Şekilde ABCD kare,
 $[EK] \perp [EF]$,
 $[LF] \perp [FE]$,
 $IAKI = 4 \text{ br}$,
 $IEDI = 3 \text{ br}$,
 $IFCI = 5 \text{ br}$ ise
 $IBLI$ kaç br 'dir?



- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

20. Şekilde ABCD kare,
 $m(\angle ADP) = m(\angle DAP) = 15^\circ$ ise
 $m(\angle PBA) = \alpha$
kaç derecedir?



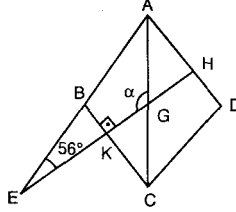
- A) 75 B) 60 C) 45 D) 30 E) 25

EŞKENAR DÖRTGEN - DELTOİT

TEST

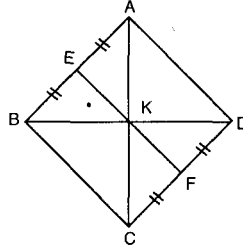
I

1. Şekilde ABCD eşkenar dörtgen, $[EH] \perp [BC]$,
 $m(\widehat{AEH}) = 56^\circ$ ise
 $m(\widehat{AGE}) = \alpha$ kaç
 derecedir?



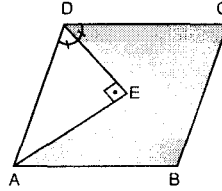
- A) 102 B) 105 C) 107
 D) 112 E) 115

2. Şekilde ABCD eşkenar dörtgen, E ve F orta nokta,
 $IBDI = 12$ br,
 $IACI = 16$ br ise
 $IEFI$ kaç br dir?



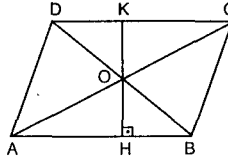
- A) 20 B) 15 C) 10 D) 9 E) 8

3. Şekilde ABCD eşkenar dörtgen,
 $[DE] \perp [AE]$,
 $[DE]$ açıortay,
 $IAEI = 4$ br,
 $IDEI = 3$ br ise
 taralı alan kaç br^2 dir?



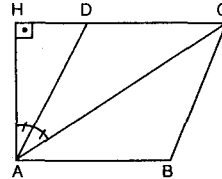
- A) 10 B) 12 C) 14 D) 16 E) 18

4. Şekilde ABCD eşkenar dörtgen,
 $[KH] \perp [AB]$,
 $IKHI = 8$ br,
 $IHBI = 2$ br ise
 $A(ABCD)$ kaç br^2 dir?



- A) 72 B) 80 C) 84 D) 96 E) 100

5. Şekilde ABCD eşkenar dörtgen,
 $[AH] \perp [HC]$,
 $m(\widehat{HAD}) = m(\widehat{DAC})$,
 $IACI = 18$ br ise
 $\angle(ABCD)$ kaç br dir?

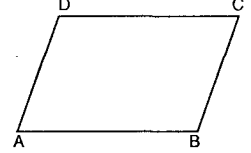


- A) $52\sqrt{3}$ B) $48\sqrt{3}$ C) $42\sqrt{3}$
 D) $36\sqrt{3}$ E) $24\sqrt{3}$

6. Bir kenarı 20 br olan eşkenar dörtgenin, köşegenleri oranı $\frac{3}{4}$ ise alanı kaç br^2 dir?

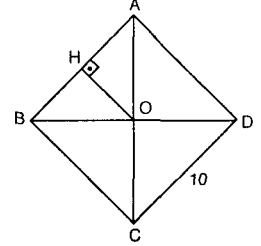
- A) 384 B) 324 C) 288 D) 272 E) 196

7. Şekilde ABCD eşkenar dörtgen,
 $m(\widehat{B}) = 2m(\widehat{A})$ ve
 $\frac{A(ABCD)}{\angle(ABCD)} = \sqrt{3}$ ise
 $|ABI|$ kaç br dir?



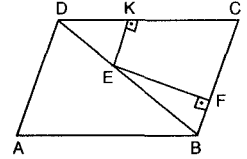
- A) 4 B) 6 C) $4\sqrt{3}$ D) 8 E) $6\sqrt{3}$

8. Şekilde ABCD eşkenar dörtgen,
 $[OH] \perp [AB]$,
 $IOHI = 6$ br,
 $ICDI = 10$ br ise
 $IACI + IBDI$ kaç br dir?



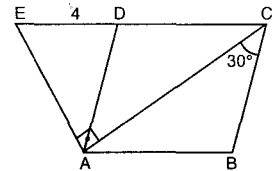
- A) $4\sqrt{10}$ B) 15 C) $2\sqrt{55}$
 D) $3\sqrt{55}$ E) $4\sqrt{55}$

9. Şekilde ABCD eşkenar dörtgen,
 $[EK] \perp [DC]$,
 $[EF] \perp [BC]$,
 $ICDI = 10$ br,
 $IEKI = 1$ br,
 $IEFI = 3$ br ise
 $A(ABCD)$ kaç br^2 dir?



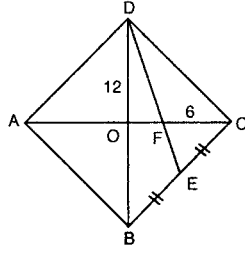
- A) 36 B) 40 C) 44 D) 52 E) 56

10. Şekilde ABCD eşkenar dörtgen,
 $[EA] \perp [AC]$,
 $m(\widehat{ACB}) = 30^\circ$,
 $IDEI = 4$ br ise
 $A(ABCD)$ kaç br^2 dir?



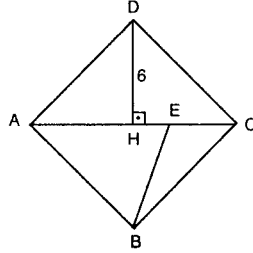
- A) 12 B) $6\sqrt{3}$ C) $8\sqrt{3}$ D) $4\sqrt{3}$ E) 6

11. Şekilde ABCD eşkenar dörtgen, $|BE| = |EC|$, $|OD| = 12$ br, $|FC| = 6$ br ise $\widehat{C(ABCD)}$ kaç br dir?



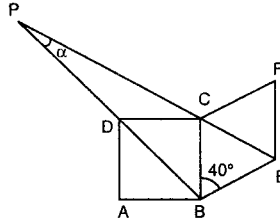
A) 60 B) 45 C) 36 D) 30 E) 24

12. Şekilde ABCD eşkenar dörtgen, $[DH] \perp [AC]$, $|EH| = |EC|$, $A(ABCD) = 144$ br² ve $|DH| = 6$ br ise $|EH|$ kaç br dir?



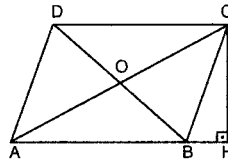
A) 2 B) 3 C) 4 D) 5 E) 6

13. Şekilde ABCD kare, BEFC eşkenar dörtgen, $m(\widehat{CBE}) = 40^\circ$ ise $m(\widehat{EPB}) = \alpha$ kaç derecedir?



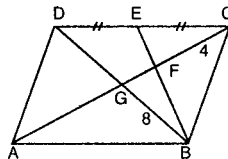
A) 15 B) 10 C) 25 D) 30 E) 37,5

14. Şekilde ABCD eşkenar dörtgen, $[CH] \perp [AH]$, $|BD| = 10$ br ise $|AC| = 24$ br ise $|CH|$ kaç br dir?



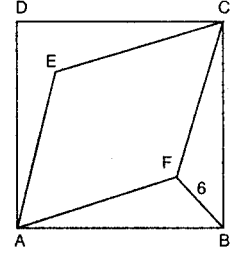
A) 9 B) $\frac{19}{2}$ C) $\frac{120}{13}$ D) $\frac{124}{13}$ E) $\frac{127}{13}$

15. Şekilde ABCD eşkenar dörtgen, $|DE| = |EC|$, $|FC| = 4$ br, $|GB| = 8$ br ise $\widehat{C(ABC)}$ kaç br dir?



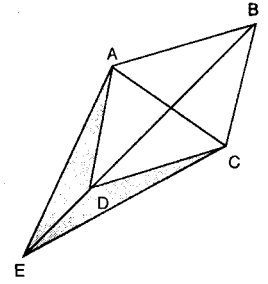
A) 44 B) 40 C) 36 D) 32 E) 28

16. Şekilde ABCD kare, EAFC eşkenar dörtgen, $A(EAFC) = 32$ br², $|BF| = 6$ br ise $A(ABCD)$ kaç br² dir?



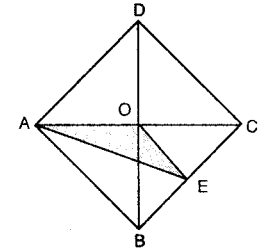
A) 84 B) 90 C) 96 D) 102 E) 128

17. Şekilde ABCD eşkenar dörtgen, $|AC| = 20$ br, $|ED| = 10$ br ise taralı alan kaç br² dir?



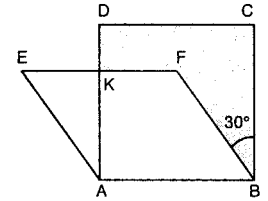
A) 100 B) 120 C) 135 D) 150 E) 175

18. Şekilde ABCD eşkenar dörtgen, $2|BE| = 3|EC|$, $\frac{A(\widehat{OAE})}{A(ABCD)}$ oranı nedir?



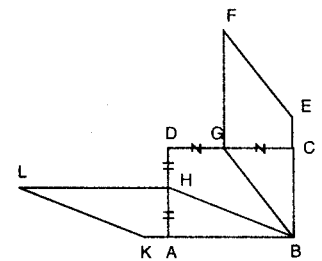
A) $\frac{1}{5}$ B) $\frac{1}{6}$ C) $\frac{1}{8}$ D) $\frac{1}{10}$ E) $\frac{1}{12}$

19. Şekilde ABCD kare, ABFE eşkenar dörtgen, $m(\widehat{CBF}) = 30^\circ$, $A(\widehat{AKE}) = 18\sqrt{3}$ br² ise taralı alanı kaç br² dir?



A) $144 - 54\sqrt{3}$ B) $72 - 27\sqrt{3}$ C) $48 - 18\sqrt{3}$
D) $36 - 9\sqrt{3}$ E) $24 - 6\sqrt{3}$

20. Şekilde ABCD dikdörtgen, BHLK ve BEFG eşkenar dörtgen, G ve H orta nokta $4|BC| = |AB|$ ise $\frac{A(BHLK)}{A(BEFG)}$ oranı nedir?

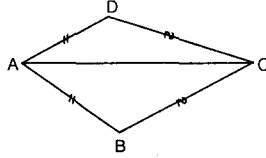


A) $\frac{\sqrt{13}}{8}$ B) $\frac{\sqrt{13}}{9}$ C) $\frac{\sqrt{13}}{10}$ D) $\frac{2\sqrt{13}}{5}$ E) $\frac{\sqrt{13}}{12}$

EŞKENAR DÖRTGEN-DELTOİT

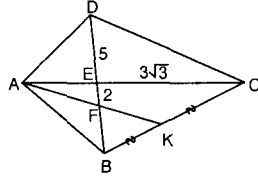
TEST 2

1. Şekildeki ABCD dörtgeninde,
 $IAI = IAD = 20$ br,
 $IBC = IDC$
 $IAI = 21$ br ve
 $A(ABCD) = 252$ br²
 ise **IDCI kaç br'dir?**



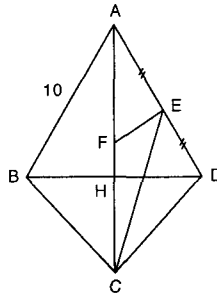
- A) 13 B) 14 C) $13\sqrt{2}$
 D) 15 E) $14\sqrt{2}$

2. Şekildeki ABCD deltoitinde,
 $IBKI = IKCI$,
 $IBC = IDC$,
 $IEFI = 2$ br,
 $IDEI = 5$ br,
 $IECI = 3\sqrt{3}$ br ise
IFKI kaç birimdir?



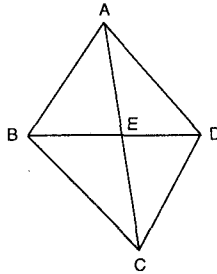
- A) $\sqrt{3}$ B) $\sqrt{5}$ C) $\sqrt{7}$ D) $2\sqrt{2}$ E) 3

3. Şekildeki ABCD deltoitinde
 $IAI = IAD = 10$ br,
 $IAEI = IEDI$,
 $IAFI = IFCI$,
 $IBDI = 12$ br ve
 $\Delta A(EFC) = 9$ br² ise
IEFI kaç br'dir?



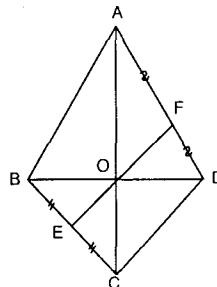
- A) 5 B) $3\sqrt{2}$ C) 4 D) $\sqrt{13}$ E) $\sqrt{10}$

4. Şekilde ABCD deltoit,
 $IAI = IBC = 10$ br,
 $IBEI = 6$ br ve
 $A(ABCD) = 128$ br² ise
IAI kaç br'dir?



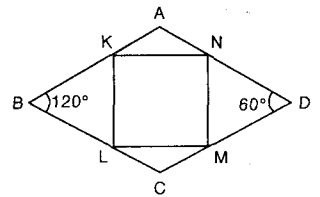
- A) $4\sqrt{41}$ B) $2\sqrt{41}$ C) $\sqrt{41}$
 D) $\frac{\sqrt{41}}{2}$ E) $\frac{\sqrt{41}}{4}$

5. Şekilde ABCD deltoit,
 $IAI = IAD$, $IAFI = IFDI$,
 $IBEI = IECI$ ve
 $IEFI = 9$ br ise
 $\angle(ABCD)$ kaç br'dir?



- A) 18 B) 24
 C) 27 D) 30
 E) 36

6. Şekilde ABCD deltoit,
 K, L, M, N orta
 nokta



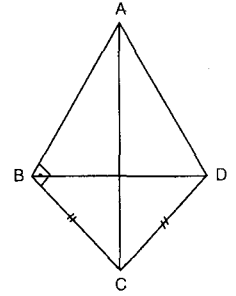
$$m(\widehat{ABC}) = 120^\circ,$$

$$m(\widehat{ADC}) = 60^\circ,$$

$$IAI = IDC = 10\sqrt{3} \text{ br ise } A(KLMN) \text{ kaç br}^2 \text{ dir?}$$

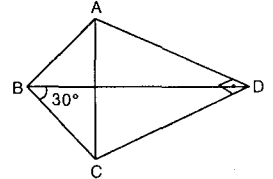
- A) $50\sqrt{3}$ B) $40\sqrt{3}$ C) $30\sqrt{3}$
 D) $25\sqrt{3}$ E) $20\sqrt{3}$

7. Şekilde ABCD deltoit,
 $[AB] \perp [BC]$,
 $IBC = IDC$,
 $m(\widehat{BCD}) = 120^\circ$
 $IAI = 8$ br ise
 $A(ABCD)$ kaç br'dir?



- A) $8\sqrt{3}$ B) $16\sqrt{3}$ C) 48
 D) 64 E) $32\sqrt{3}$

8. Şekilde ABCD deltoit,
 $[AD] \perp [DC]$,
 $m(\widehat{DBC}) = 30^\circ$,
 $IAI = IBC$ ve
 $IBC = 6$ br ise
 $\angle(ABCD)$ kaç br'dir?

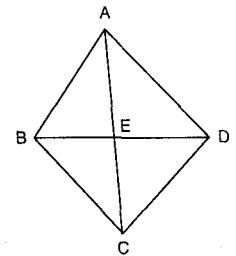


- A) $6(\sqrt{2} + 1)$ B) $6 + 2\sqrt{2}$ C) $12(\sqrt{2} + 2)$
 D) $12(\sqrt{2} + 1)$ E) $12 + 6\sqrt{2}$

9. Köşegen uzunlukları 10 br, 16 br olan ABCD deltoitinin ardışık kenarlarının orta noktalarının birleştirilmesiyle oluşan şeklin alanı kaç br² dir?

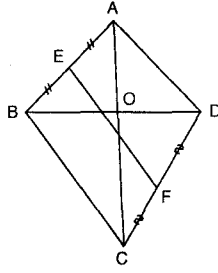
- A) 10 B) 20 C) 30 D) 40 E) 80

10. Şekilde ABCD deltoit,
 ABD eşkenar üçgen,
 $IBC = 6$ br,
 $IECI = 3$ br ise
IAEI kaç br'dir?



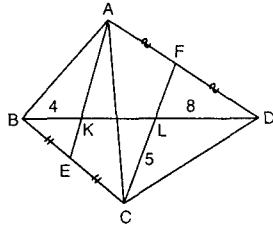
- A) 3 B) 6 C) 9 D) 12 E) 15

11. Şekilde ABCD deltoit,
 $IAI = IADI$,
 $IBEI = IEAI$,
 $ICFI = IDFI$,
 $A(ABCD) = 60 \text{ br}^2$
 $IACI - IBDI = 16 \text{ br}$ ise
IEFI kaç br'dir?



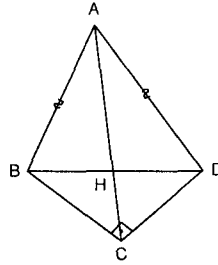
- A) $5\sqrt{7}$ B) $3\sqrt{5}$ C) $2\sqrt{31}$
D) $4\sqrt{7}$ E) $5\sqrt{15}$

12. Şekilde ABCD deltoit,
 $IAI = IBCI$,
 $IBEI = IECI$,
 $IAFI = IFDI$,
 $IBKI = 4 \text{ br}$,
 $ICLI = 5 \text{ br}$,
 $ILDI = 8 \text{ br}$ ise
IEKI kaç br'dir?



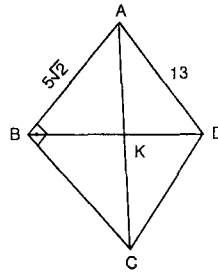
- A) $\frac{\sqrt{13}}{2}$ B) $\sqrt{5}$ C) $\frac{\sqrt{5}}{3}$ D) $\frac{\sqrt{10}}{2}$ E) $\frac{\sqrt{15}}{2}$

13. Şekilde ABCD deltoit,
 $IAI = IADI$,
 $[BC] \perp [CD]$ ve
 $m(\widehat{BAD}) = 60^\circ$ ise
 $\frac{A(\triangle ABD)}{A(\triangle BCD)}$ oranı nedir?



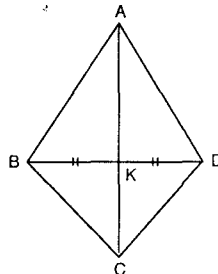
- A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) $2\sqrt{2}$ E) $2\sqrt{3}$

14. Şekilde ABCD deltoit,
 $IAKI = IKCI$, $[AB] \perp [BC]$
 $IBDI = 10 \text{ br}$,
 $IAI = 5\sqrt{2} \text{ br}$,
 $IADI = 13 \text{ br}$ ise
 $A(ABCD)$ kaç br^2 dir?



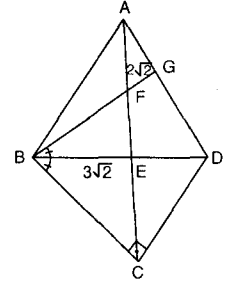
- A) 70 B) 75 C) 80 D) 85 E) 90

15. Şekilde ABCD deltoit,
 $IBKI = IKDI = 4 \text{ br}$,
 $IAI = 2IBCI$,
 $IAKI = 4IKCI$ ise
 $A(ABCD)$ kaç br^2 dir?



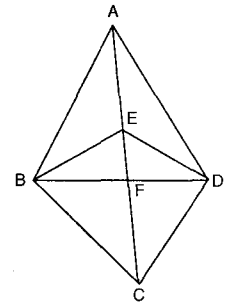
- A) 40 B) $40\sqrt{2}$ C) 50
D) $48\sqrt{2}$ E) 80

16. Şekilde ABCD deltoit,
 $[BC] \perp [CD]$,
 $m(\widehat{GBD}) = m(\widehat{DBC})$,
 $IAFI = 2\sqrt{2} \text{ br}$,
 $IBEI = 3\sqrt{2} \text{ br}$ ise
IBGI kaç br'dir?



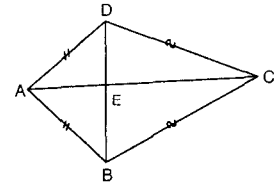
- A) $\frac{13}{2}$ B) $\frac{15}{2}$ C) $\frac{27}{4}$ D) $\frac{20}{3}$ E) $\frac{21}{2}$

17. Şekilde ABCD deltoit,
 $IAI = IADI$,
 $IBEI = IEDI = IBCI$,
 $A(ABED) = A(BCDE)$ ise
 $\frac{IAEI}{IEFI}$ oranı nedir?



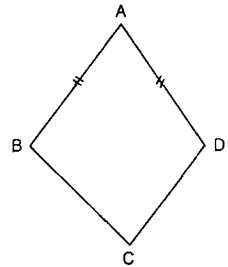
- A) 1 B) $\frac{3}{2}$
C) 2 D) $\frac{5}{2}$
E) 3

18. Şekildeki dörtgende,
 $IADI = IABI$,
 $IBCI = IDCI$ ise
aşağıdakilerden hangisi yanlıştır?



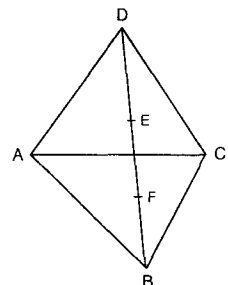
- A) $m(\widehat{B}) = m(\widehat{D})$ B) $m(\widehat{BAC}) = m(\widehat{DAC})$
C) $[AC] \perp [BD]$ D) $IDEI = IBEI$
E) $[AB] \perp [BC]$

19. Şekilde ABCD deltoit,
 $IAI = IADI = a \text{ br}$,
 $IBCI = b \text{ br}$,
 $m(\widehat{C}) = 120^\circ$,
 $m(\widehat{A}) = 60^\circ$ ise
 $\frac{a}{b}$ oranı nedir?



- A) $2\sqrt{3}$ B) $2\sqrt{2}$ C) 2
D) $\sqrt{3}$ E) $\sqrt{2}$

20. Şekilde ABCD deltoit,
 $IADI = IDCI$,
 $\triangle ADC$ 'nin,
F, ABC nin ağırlık merke-
zidir.
 $IEFI = 7 \text{ br}$,
 $IACI = 10 \text{ br}$ ise
 $A(ABCD)$ kaç br^2 dir?



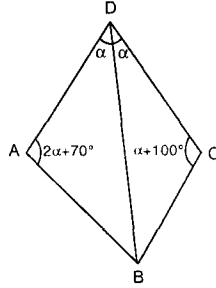
- A) 90 B) 105 C) 120 D) 140 E) 154

EŞKENAR DÖRTGEN-DELTOİT

TEST

3

1. Şekilde ABCD deltoit,
 $m(\hat{ADB}) = m(\hat{BDC}) = \alpha$,
 $m(\hat{DAB}) = 2\alpha + 70^\circ$,
 $m(\hat{DCB}) = \alpha + 100^\circ$ ise
 $m(\hat{ABC})$ kaç derecedir?

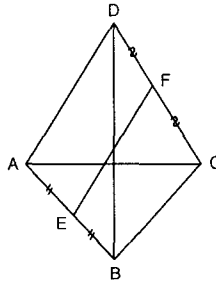


A) 120 B) 100 C) 80 D) 60 E) 40

2. Bir eşkenar dörtgenin kenarlarının orta noktalarını köşe kabul eden dörtgen aşağıdakilerden hangisidir?

A) Paralelkenar B) Eşkenar dörtgen
 C) Deltoit D) Dikdörtgen
 E) Kare

3. Şekilde ABCD deltoit,
 E ve F orta nokta,
 $IAI = IDC$,
 $IBDI = 24$ br,
 $IAI = 10$ br ise
 $IEFI$ kaç br'dir?

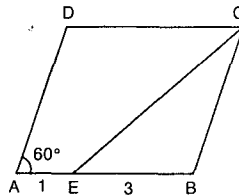


A) 7 B) 8 C) 11 D) 13 E) 15

4. ABCD eşkenar dörtgeninin köşegen uzunlukları e ve f olmak üzere, $e^2 + f^2 = 100$ br² ve $e + f = 14$ br ise $A(ABCD)$ kaç br²dir?

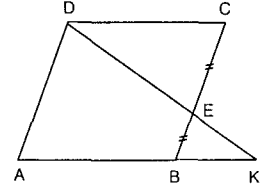
A) 24 B) 36 C) 48 D) 52 E) 64

5. Şekilde ABCD eşkenar dörtgen,
 $m(\hat{DAB}) = 60^\circ$,
 $IAEI = 1$ br,
 $IBEI = 3$ br ise
 $IECI$ kaç br'dir?



A) $\sqrt{37}$ B) $\sqrt{47}$ C) $2\sqrt{37}$
 D) $2\sqrt{47}$ E) $7\sqrt{13}$

6. Şekilde ABCD eşkenar dörtgen,
 $IBEI = IECI$ ise
 $\frac{A(ADK)}{A(ABCD)}$ oranı nedir?

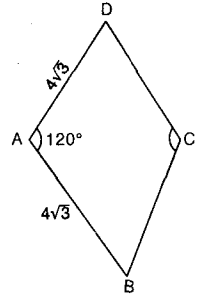


A) 1 B) $\frac{4}{5}$ C) $\frac{3}{4}$ D) $\frac{2}{3}$ E) $\frac{1}{2}$

7. Çevresi 24 cm olan ABCD dörtgeninde A açısının ölçüsü 120° dir. Bu eşkenar dörtgenin alanı kaç cm²dir?

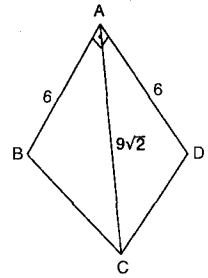
A) $8\sqrt{3}$ B) $16\sqrt{3}$ C) 18
 D) $18\sqrt{3}$ E) $24\sqrt{3}$

8. Şekildeki ABCD deltoitinde,
 $IAI = IADI = 4\sqrt{3}$ br,
 $m(\hat{BAD}) = 120^\circ$,
 $m(\hat{BCD}) = 60^\circ$ ise
 $A(ABCD)$ kaç br²dir?



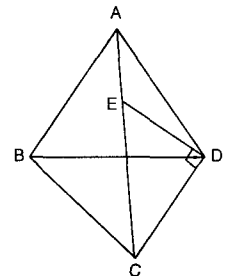
A) $24\sqrt{3}$ B) 48 C) $48\sqrt{3}$
 D) 60 E) 72

9. Şekildeki ABCD deltoitinde,
 $[AB] \perp [AD]$,
 $IAI = IADI = 6$ br,
 $IAI = 9\sqrt{2}$ br ise
 $A(ABCD)$ kaç br²dir?



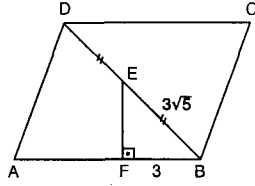
A) 72 B) 54 C) 48 D) 42 E) 36

10. Şekilde ABCD eşkenar dörtgen,
 $[DE] \perp [DC]$
 $m(\hat{ABC}) = 150^\circ$ ve
 $ICEI = 10$ br ise
 $IBDI$ kaç br'dir?



A) 9 B) 8 C) 7 D) 6 E) 5

11. Şekilde ABCD eşkenar dörtgen, $[EF] \perp [AB]$, $|DE| = |EB| = 3\sqrt{5}$ br, $|FB| = 3$ br ise $A(ABCD)$ kaç br²dir?

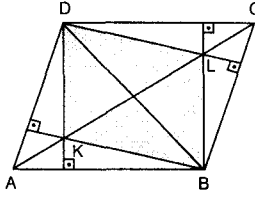


A) 240 B) 210 C) 180 D) 150 E) 120

12. Bir eşkenar dörtgenin köşegen uzunluklarının aritmetik ortalaması 8 br, geometrik ortalaması $6\sqrt{3}$ br ise eşkenar dörtgenin bir kenar uzunluğu kaç br'dir?

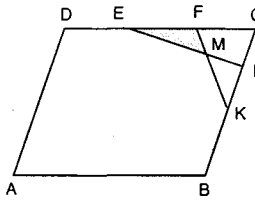
A) $\sqrt{6}$ B) $\sqrt{10}$ C) $2\sqrt{3}$ D) 4 E) $4\sqrt{2}$

13. ABCD eşkenar dörtgeninde, $m(\widehat{DCB}) = 60^\circ$ ve $A(DKBL) = 12\sqrt{3}$ br² ise $A(ABCD)$ kaç br'dir?



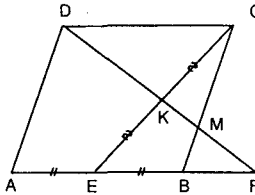
A) 24 B) $24\sqrt{2}$ C) $24\sqrt{3}$
D) 48 E) $32\sqrt{2}$

14. Şekilde ABCD eşkenar dörtgen, $|DE| = |EF| = |FC|$, $|BK| = |KL| = |LC|$, $A(\triangle EFM) = 5$ br² ise $A(ABCD)$ kaç br²dir?



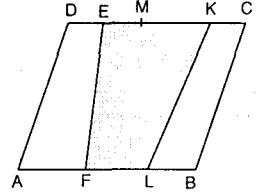
A) 90 B) 100 C) 105 D) 120 E) 135

15. Şekilde ABCD eşkenar dörtgen, $|AE| = |EB|$, $|EK| = |KC|$ ve $|DC| = 36$ br ise $|MC|$ kaç br'dir?



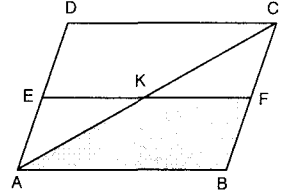
A) 18 B) 20 C) 24 D) 26 E) 30

16. Şekildeki ABCD eşkenar dörtgeninin köşegen uzunlukları 12 br ve 16 br'dir. $|AF| = |FL| = |LB|$, $|DE| = |EM| = |MC| = |CK|$ ise taralı bölgenin alanı kaç br²dir?



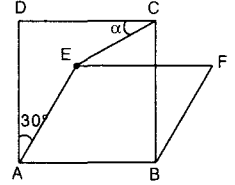
A) 40 B) 44 C) 48 D) 52 E) 56

17. Şekilde ABCD eşkenar dörtgen E ve F orta nokta, $A(ABFK) = 24$ br² ise $A(ABCD)$ kaç br²dir?



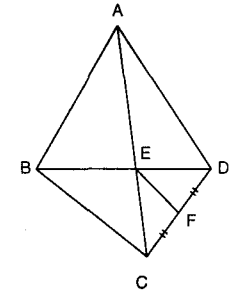
A) 48 B) 64 C) 68 D) 72 E) 96

18. Şekilde ABCD kare, ABFE eşkenar dörtgen, $m(\widehat{DAE}) = 30^\circ$ ise $m(\widehat{DCE}) = \alpha$ kaç derecedir?



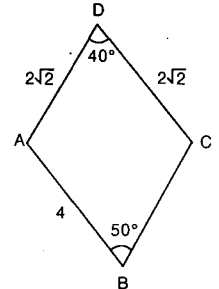
A) 45 B) 40 C) 30 D) 25 E) 15

19. Şekilde ABCD deltoit, $|CF| = |FD|$, $m(\widehat{ADC}) = 90^\circ$, $|EF| = 2\sqrt{5}$ br, $|BE| = 4$ br ise $A(ABCD)$ kaç br²dir?



A) 40 B) 42 C) 45 D) 50 E) 54

20. Şekilde ABCD deltoit, $m(\widehat{ADC}) = 40^\circ$, $m(\widehat{ABC}) = 50^\circ$, $|AD| = |DC| = 2\sqrt{2}$ br, $|AB| = 4$ br ise $A(ABCD)$ kaç br²dir?

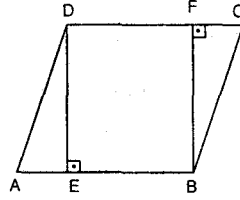


A) $2\sqrt{2}$ B) 4 C) $4\sqrt{2}$
D) 6 E) 8

EŞKENAR DÖRTGEN–DELTOİT

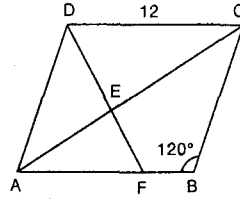
TEST 4

1. Şekilde ABCD eşkenar dörtgen,
 $[DE] \perp [AB]$,
 $[BF] \perp [DC]$,
 $IDFI = 4$ br,
 $A(DEBF) = 32$ br² ise
 $A(ABCD)$ kaç br²'dir?



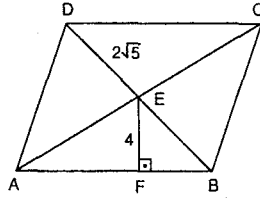
A) 38 B) 40 C) 60 D) 80 E) 100

2. Şekilde ABCD eşkenar dörtgen,
 $m(\hat{ABC}) = 120^\circ$,
 $IAFI = 2IFBI$ ve
 $IDCI = 12$ br ise
 $IEFI$ kaç br'dir?



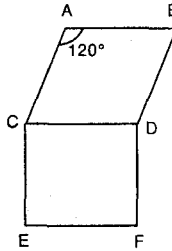
A) $\frac{4\sqrt{7}}{5}$ B) $\frac{6\sqrt{7}}{5}$ C) $\frac{8\sqrt{7}}{5}$ D) $2\sqrt{7}$ E) $4\sqrt{7}$

3. Şekilde ABCD eşkenar dörtgen,
 $[EF] \perp [AB]$,
 $IDEI = 2\sqrt{5}$ br,
 $IEFI = 4$ br ise
 $A(ABCD)$ kaç br²'dir?



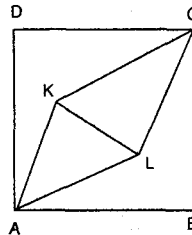
A) 80 B) 72 C) 64 D) 60 E) 40

4. Şekilde ABCD eşkenar dörtgen, CEFD karedir.
 $m(\hat{CAB}) = 120^\circ$ ise
 $\frac{A(ABCD)}{A(CDEF)}$ oranı nedir?



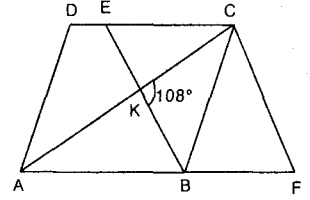
A) 1 B) $\frac{1}{2}$ C) $\frac{\sqrt{3}}{2}$ D) $\frac{\sqrt{2}}{2}$ E) 2

5. Şekilde ABCD kare,
AKCL eşkenar dörtgen,
 $A(AKCL) = 8\sqrt{2}$ br²,
 $IAI = IKLI$ ise
 $\frac{A(ABCD)}{A(KL)}$ kaç br'dir?



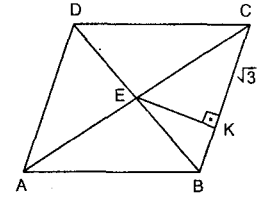
A) $8\sqrt{2}$ B) 16 C) $16\sqrt{2}$ D) 32 E) 48

6. Şekilde ABCD ve BFCE eşkenar dörtgen,
 $m(\hat{BKC}) = 108^\circ$
ise $m(\hat{ADC})$ kaç derecedir?



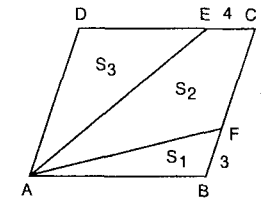
A) 108 B) 116 C) 124 D) 128 E) 132

7. Şekilde ABCD eşkenar dörtgen,
 $m(\hat{DCB}) = 60^\circ$ ve
 $ICKI = \sqrt{3}$ br ise
 $IABI$ kaç br'dir?



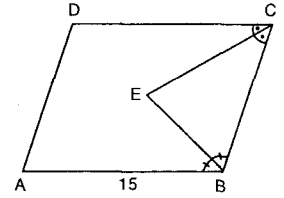
A) $\frac{4\sqrt{3}}{3}$ B) $\frac{3\sqrt{3}}{2}$ C) $2\sqrt{3}$
D) $\frac{5\sqrt{3}}{2}$ E) $4\sqrt{3}$

8. Şekilde ABCD eşkenar dörtgen, S_1, S_2, S_3 bulundukları bölgelerin alanlarını göstermektedir.
 $\frac{S_2}{S_1 + S_3} = \frac{5}{4}$, $IBFI = 3$ br,
 $ICEI = 4$ br ise
 $\frac{A(ABCD)}{A(BCE)}$ kaç br'dir?



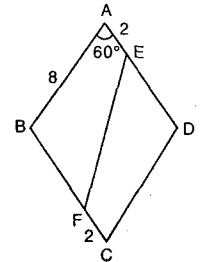
A) 20 B) 24 C) 28 D) 32 E) 36

9. Şekilde ABCD eşkenar dörtgen,
 $[CE]$ ve $[BE]$ açıortay,
 $IAI = 15$ br ve
 $A(ABCD) = 216$ br²
ise $\frac{A(BCE)}{A(ABCD)}$ kaç br'dir?



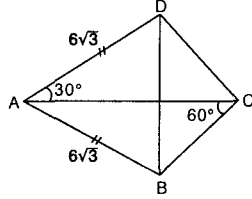
A) 30 B) 32 C) 36 D) 40 E) 42

10. Şekilde ABCD eşkenar dörtgen, $m(\hat{BAD}) = 60^\circ$,
 $IAEI = IFCI = 2$ br,
 $IAI = 8$ br ise
 $IEFI$ kaç br'dir?



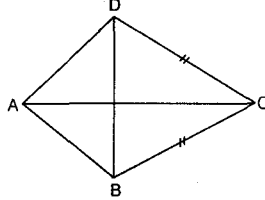
A) $4\sqrt{7}$ B) $6\sqrt{3}$ C) $4\sqrt{6}$
D) $2\sqrt{7}$ E) $3\sqrt{2}$

11. Şekilde ABCD deltoit,
 $m(\hat{D}\hat{A}\hat{C}) = 30^\circ$,
 $m(\hat{A}\hat{C}\hat{B}) = 60^\circ$ ve
 $IADI = IABI = 6\sqrt{3}$ br
 ise
IACI kaç br'dir?



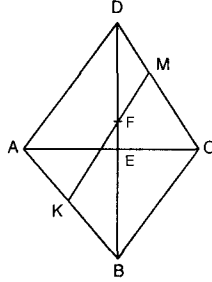
A) 10 B) 11 C) 12 D) 13 E) 14

12. Şekilde ABCD deltoit,
 $IBCI = IDCI$
 $IACI = 3IDBI$ ve
 $A(ABCD) = 24$ br²
 ise **IACI + IDBI kaç br'dir?**



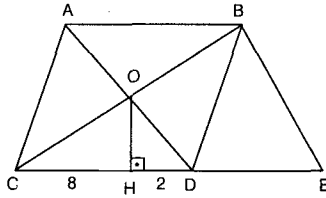
A) 12 B) 16 C) 18 D) 21 E) 24

13. Şekilde ABCD eşkenar dörtgen,
 $3IDMI = IMCI$,
 $3IKBI = 2IAKI$ ise
 $\frac{IEFI}{IDFI}$ oranı nedir?



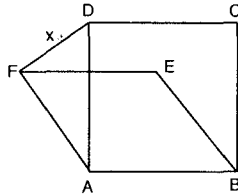
A) $\frac{3}{10}$ B) $\frac{1}{3}$ C) $\frac{3}{8}$ D) $\frac{2}{9}$ E) $\frac{3}{13}$

14. Şekilde ABCD eşkenar dörtgen,
 $[AD] \parallel [BE]$,
 $[OH] \perp [CD]$,
 $ICHI = 8$ br,
 $IHDl = 2$ br ise
A(ABED) kaç br²dir?



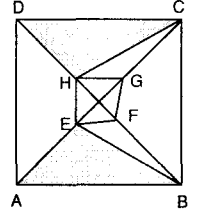
A) 60 B) 64 C) 72 D) 80 E) 96

15. Şekilde ABCD kare,
 ABEF eşkenar dörtgen,
 $A(ABCD) = 25$ cm²,
 $A(ABEF) = 20$ cm² ise
IFDI = x kaç cm'dir?



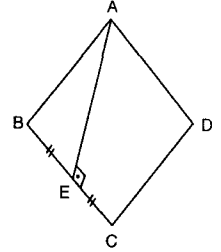
A) $2\sqrt{15}$ B) $3\sqrt{10}$ C) $2\sqrt{10}$
 D) $2\sqrt{5}$ E) $\sqrt{10}$

16. Şekilde ABCD kare,
 EFGH eşkenar dörtgen,
 $A(ABCD) = 72$ br² ve taralı alanlar toplamı 27 br² ise
IEGI kaç br'dir?



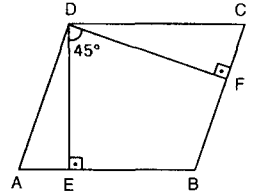
A) 5 B) 4 C) 3 D) 2 E) 1

17. Şekilde ABCD eşkenar dörtgen,
 $[AE] \perp [BC]$,
 $IBEI = IECI$,
 $IAEI = 4\sqrt{3}$ br ise
A(ABCD) kaç br²dir?



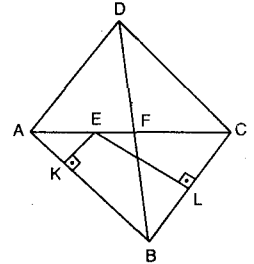
A) $36\sqrt{3}$ B) $32\sqrt{3}$ C) $28\sqrt{3}$
 D) $24\sqrt{3}$ E) $18\sqrt{3}$

18. Şekilde ABCD eşkenar dörtgen,
 $m(\hat{E}\hat{D}\hat{F}) = 45^\circ$,
 $[DE] \perp [AB]$,
 $[DF] \perp [BC]$,
 $IEBI = 1$ br ise
IBCI kaç br'dir?



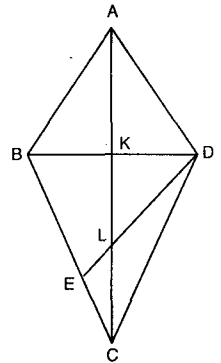
A) $3\sqrt{2}$ B) $2\sqrt{2}$ C) $\sqrt{2} + 1$
 D) $\sqrt{2} + 2$ E) $\sqrt{2} - 1$

19. Şekilde ABCD eşkenar dörtgen,
 $IACI = 24$ br,
 $IDCI = 20$ br,
 $[EK] \perp [AB]$,
 $[EL] \perp [BC]$ ise
IEKI + IELI kaç br'dir?



A) 26 B) 24,4 C) 21 D) 20 E) 19,2

20. Şekilde ABCD deltoit,
 $IABI = IADI$,
 $IAKI = IKLI = ILCI$,
 $A(\triangle ELC) = 4$ cm² ise
A(ABCD) kaç cm²dir?



A) 72 B) 64 C) 60 D) 54 E) 48

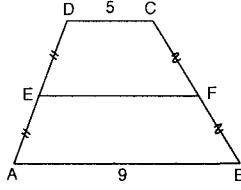
YAMUK

TEST

1

1. ABCD yamuğunda

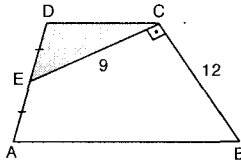
$IDEI = IAEI$,
 $ICFI = IFBI$,
 $IDCI = 5$ br ve
 $IABI = 9$ br ise
 $\frac{A(EFCD)}{A(ABFE)}$ oranı nedir?



- A) $\frac{1}{2}$ B) $\frac{5}{9}$ C) $\frac{3}{4}$ D) $\frac{13}{16}$ E) $\frac{7}{8}$

2. ABCD yamuğunda

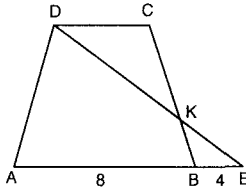
$IDEI = IAEI$,
 $ECI \perp [CB]$,
 $ICEI = 9$ br,
 $IBCI = 12$ br
ve $A(ABCE) = 80$ br²
ise $A(DEC)$ kaç br²dir?



- A) 28 B) 24 C) 20 D) 16 E) 12

3. ABCD yamuğunda

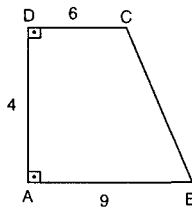
$2ICKI = 3IBKI$,
 $IABI = 8$ cm,
 $IBEI = 4$ cm ve
 $A(KBE) = 12$ cm² ise
 $A(ABCD)$ kaç
cm²dir?



- A) 80 B) 96 C) 100 D) 105 E) 120

4. Şekildeki dik yamukta

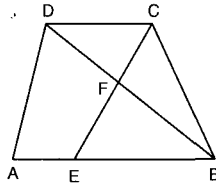
$IDCI = 6$ cm,
 $IADI = 4$ cm ve
 $IABI = 9$ cm ise
 $IBCI$ kaç cm'dir?



- A) $\frac{9}{2}$ B) 5 C) $\frac{11}{2}$ D) 6 E) $\frac{13}{2}$

5. ABCD yamuğunda

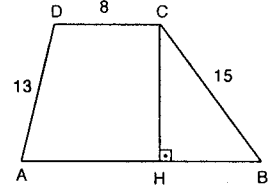
$2.IABI = 5.IDCI$ ve
 $4.IAEI = IABI$ ise
 $\frac{A(DCF)}{A(BFE)}$ nedir?



- A) $\frac{64}{225}$ B) $\frac{25}{81}$ C) $\frac{9}{25}$ D) $\frac{121}{225}$ E) $\frac{64}{81}$

6. ABCD yamuğunda

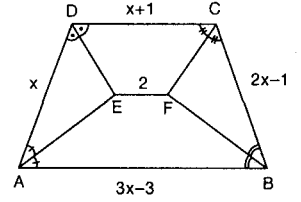
$[CH] \perp [AB]$,
 $IDCI = 8$ br,
 $IADI = 13$ br,
 $IBCI = 15$ br ve
 $IABI = 22$ br ise
 $ICHI$ kaç br'dir?



- A) 9 B) 10 C) 11 D) 12 E) 13

7. ABCD yamuğunda

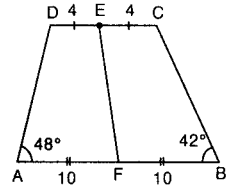
$[DE]$, $[CF]$, $[BF]$ ve
 $[AE]$ açıortay ol-
mak üzere,
 $IEFI = 2$ br,
 $IADI = x$ br,
 $IBCI = (2x - 1)$ br
 $IDCI = x + 1$ br $IABI = (3x - 3)$ br ise yamuğun
çevresi kaç br'dir?



- A) 28 B) 30 C) 32 D) 34 E) 36

8. ABCD yamuğunda

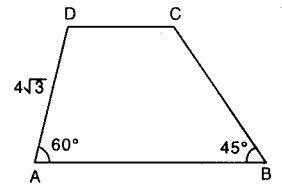
$IDEI = IECI = 4$ cm,
 $IAFI = IFBI = 10$ cm,
 $m(\hat{DAB}) = 48^\circ$ ve
 $m(\hat{ABC}) = 42^\circ$ ise
 $IEFI$ kaç cm'dir?



- A) 5 B) 6 C) 7 D) 8 E) 9

9. Şekilde

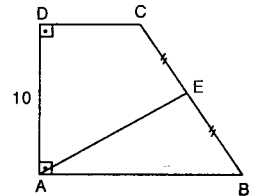
$[AB] \parallel [CD]$,
 $m(\hat{A}) = 60^\circ$,
 $m(\hat{B}) = 45^\circ$ ve
 $IADI = 4\sqrt{3}$ br ise
 $IBCI$ kaç br'dir?



- A) $6\sqrt{3}$ B) $7\sqrt{2}$ C) $4\sqrt{6}$
D) $5\sqrt{3}$ E) $6\sqrt{2}$

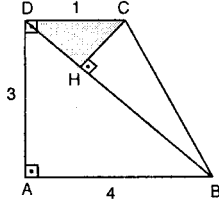
10. ABCD dik yamuğunda

$IADI = 10$ br,
 $A(ABCD) = 120$ br²
ve $IECI = IEBI$ ise
 $IAEI$ kaç br'dir?



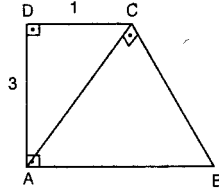
- A) 16 B) 15 C) 13 D) 12 E) 10

11. Şekilde ABCD dik yamuk, $IDCI = 1$ cm, $IADI = 3$ cm, $IABI = 4$ cm ve $[CH] \perp [BD]$ ise $A(CDH)$ kaç cm^2 'dir?



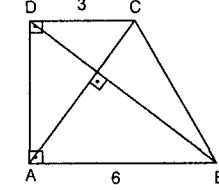
- A) 1 B) $\frac{18}{25}$ C) $\frac{3}{5}$ D) $\frac{12}{25}$ E) $\frac{6}{25}$

12. Şekildeki ABCD dik yamuğunda $[AC] \perp [BC]$, $IDCI = 1$ cm ve $IADI = 3$ cm ise $IBCI$ kaç cm'dir?



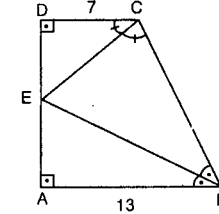
- A) $3\sqrt{3}$ B) $3\sqrt{5}$ C) $5\sqrt{3}$
D) 9 E) $3\sqrt{10}$

13. ABCD dik yamuğunda $[AC] \perp [BD]$ dir. $IDCI = 3$ cm ve $IABI = 6$ cm ise $IBCI$ kaç cm'dir?



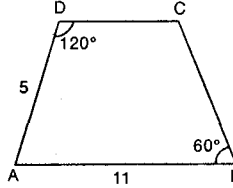
- A) $3\sqrt{2}$ B) $3\sqrt{3}$ C) $4\sqrt{2}$
D) $3\sqrt{5}$ E) $4\sqrt{3}$

14. ABCD dik yamuğunda $[CE]$ ve $[BE]$ açıortaydır. $IABI = 13$ br, $IDCI = 7$ br, ise $IBCI$ kaç br'dir?



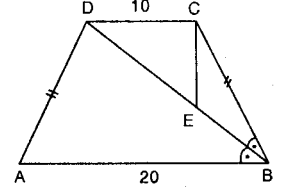
- A) 18 B) 20 C) 21 D) 22 E) 23

15. ABCD yamuğunda $m(\hat{D}) = 120^\circ$ ve $m(\hat{B}) = 60^\circ$ dir. $IADI = 5$ br ve $IABI = 11$ br ise yamuğun çevresi kaç br'dir?



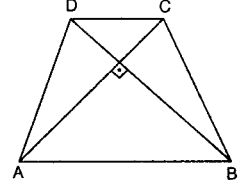
- A) 25 B) 26 C) 27 D) 30 E) 34

16. ABCD ikizkenar yamuğunda $[BD]$ açıortay, $2IDEI = 3IBEI$, $IDCI = 10$ br ve $IABI = 20$ br ise $IECI$ kaç br'dir?



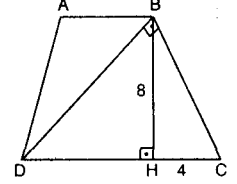
- A) $2\sqrt{3}$ B) $2\sqrt{5}$ C) $3\sqrt{3}$
D) $2\sqrt{7}$ E) $3\sqrt{5}$

17. Şekilde ABCD ikizkenar yamuk, $[AC] \perp [BD]$ ve $IACI + IBDI = 12$ cm ise $A(ABCD)$ kaç cm^2 'dir?



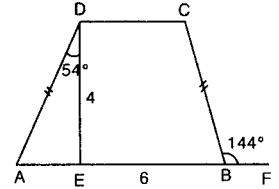
- A) 12 B) 18 C) 24 D) 36 E) 40

18. Şekilde $[AB] \parallel [DC]$, $IADI = IBCI$, $[DB] \perp [BC]$, $[BH] \perp [DC]$ $IBHI = 8$ br ve $IHCI = 4$ br ise $A(ABCD)$ kaç br^2 'dir?



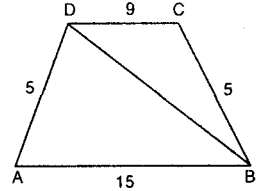
- A) 72 B) 80 C) 96 D) 112 E) 128

19. Şekildeki dörtgende $[AF] \parallel [DC]$, $IADI = IBCI$, $m(\hat{ADE}) = 54^\circ$, $m(\hat{CBF}) = 144^\circ$, $IDEI = 4$ br ve $IEBI = 6$ br ise $A(ABCD)$ kaç br^2 'dir?



- A) 12 B) 18 C) 24 D) 30 E) 36

20. Şekildeki ABCD yamuğunda $IADI = IBCI = 5$ br, $IDCI = 9$ br ve $IABI = 15$ br ise $IBDI$ kaç br'dir?

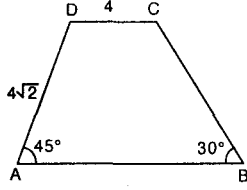


- A) $3\sqrt{10}$ B) 11 C) $2\sqrt{31}$
D) $2\sqrt{37}$ E) $4\sqrt{10}$

YAMUK

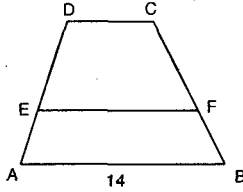
TEST 2

1. Şekilde
 $[AB] \parallel [DC]$,
 $m(\hat{A}) = 45^\circ$,
 $m(\hat{B}) = 30^\circ$,
 $IDC| = 4$ br ve
 $IAI = 4\sqrt{2}$ br ise
 $A(ABCD)$ kaç br^2 'dir?



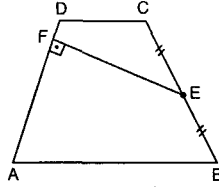
- A) $24 + 8\sqrt{3}$ B) $24 + 6\sqrt{3}$ C) $12 + 8\sqrt{3}$
 D) $12 + 6\sqrt{3}$ E) $12 + 4\sqrt{3}$

2. Şekilde
 $[AB] \parallel [EF] \parallel [DC]$,
 $IEFI = 5IDC|$,
 $IBCI = 3IFBI$ ve
 $IAI = 14$ br ise
 $IDC|$ kaç br'dir?



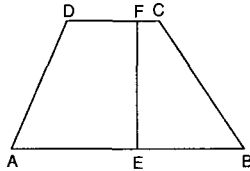
- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

3. ABCD yamuğunda
 $IBEI = IECI$,
 $[EF] \perp [AD]$,
 $IEFI = 12$ cm ve
 $IAI = 10$ cm ise
 $A(ABCD)$ kaç cm^2 'dir?



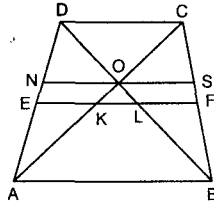
- A) 60 B) 72 C) 96 D) 120 E) 132

4. Şekildeki ABCD yamuğunda
 $A(AEFD) = A(EBCF)$,
 $IEBI - IEAI = 5$ cm
 ve $IDC| = 13$ cm ise
 $IDFI$ kaç cm'dir?



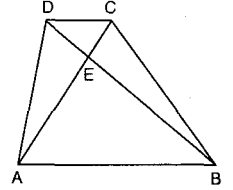
- A) 10 B) 9 C) 8 D) 7 E) 6

5. ABCD yamuğunda
 $IAEI = IEDI$,
 $ICFI = IFBI$,
 $[NS] \parallel [EF]$,
 $IKLI = 3$ br ve
 $IAI = 12$ br ise
 $INSI$ kaç br'dir?



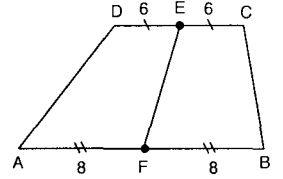
- A) 8 B) $\frac{15}{2}$ C) 7 D) $\frac{13}{2}$ E) 6

6. ABCD yamuğunda
 $8IDEI = 3IBDI$
 ve $A(\triangle BEC) = 45$ br² ise
 $A(\triangle ADC)$ kaç br²'dir?



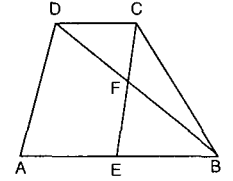
- A) 48 B) 72 C) 90 D) 108 E) 120

7. ABCD yamuğunda
 $IDEI = IECI = 6$ br,
 $IAFI = IFBI = 8$ br ve
 $m(\hat{D}) + m(\hat{C}) = 270^\circ$
 ise **$IEFI$ kaç br'dir?**



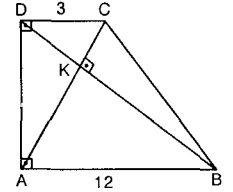
- A) 2 B) $\frac{5}{2}$ C) 3 D) $\frac{7}{2}$ E) 4

8. Şekilde
 $[DC] \parallel [AB]$,
 $[AD] \parallel [EC]$,
 $IABI = 3IAEI$ ve
 $A(\triangle AEFD) = 10$ br² ise
 $A(\triangle BCF)$ kaç br²'dir?



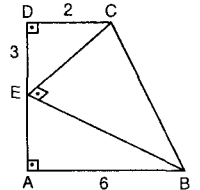
- A) 2 B) 3 C) 4 D) 5 E) 6

9. Şekildeki dörtgende
 $[DC] \parallel [AB]$,
 $[AD] \perp [AB]$ ve
 $[AC] \perp [BD]$ dir.
 $IABI = 12$ br ve
 $IDC| = 3$ br ise
 $A(\triangle ADK)$ kaç br²'dir?



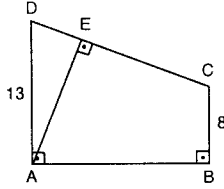
- A) 6 B) 6,4 C) 7,2 D) 8 E) 8,4

10. ABCD dik yamuğunda
 $[CE] \perp [BE]$,
 $IDC| = 2$ br,
 $IDEI = 3$ br ve
 $IABI = 6$ br ise
 $A(\triangle CEB)$ kaç br²'dir?



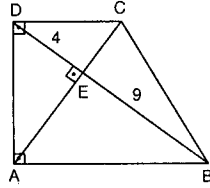
- A) 26 B) 21 C) 18 D) 16 E) 13

11. Şekilde ABCD dik yamuk,
 $IAI = ICI = 13$ br,
 $IBC = 8$ br ve
 $[DC] \perp [AE]$ ise
IAEI kaç br'dir?



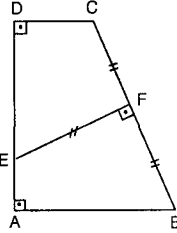
A) 8 B) 9 C) 10 D) 12 E) 13

12. Şekilde ABCD dik yamuk,
 $[AC] \perp [BD]$,
 $IDEI = 4$ br ve
 $IBEI = 9$ br ise
 $\Delta(BEC)$ kaç br^2 'dir?



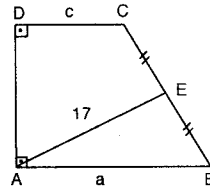
A) 6 B) 12 C) 18 D) 20 E) 24

13. ABCD dik yamuk,
 $[EF] \perp [BC]$
 $ICFI = IFBI = IEFI$
ve $IAI = 3$ br
ise **A(ABCD)** kaç br^2 'dir?



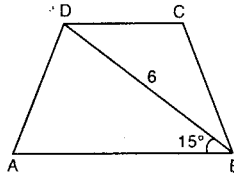
A) 3 B) 3,5 C) 4 D) 4,5 E) 5

14. ABCD dik yamuk,
 $IBEI = IECI$,
 $IAI = a$ br,
 $ICDI = c$ br,
 $IAEI = 17$ br ve
 $a + c = 30$ br ise
IADI kaç br'dir?



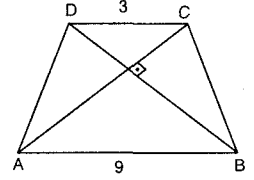
A) 12 B) 15 C) 16 D) 18 E) 20

15. ABCD yamuğunda
 $IAI = IBCI$,
 $IBDI = 6$ br ve
 $m(\hat{ABD}) = 15^\circ$ ise
A(ABCD) kaç br^2 'dir?



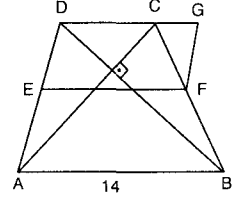
A) 9 B) 12 C) 15 D) $9\sqrt{3}$ E) 18

16. Şekildeki ABCD ikizkenar yamuk,
 $[BD] \perp [AC]$,
 $IAI = 9$ cm ve
 $ICDI = 3$ cm ise
IACI kaç cm'dir?



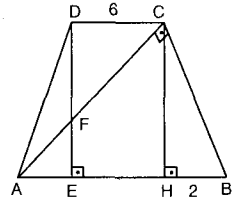
A) 5 B) 6 C) $5\sqrt{2}$ D) $6\sqrt{2}$ E) $7\sqrt{2}$

17. Şekilde ABCD ikizkenar yamuk, EFGD paralelkenar,
 $IAEI = IEDI$,
 $IEFI = 8$ cm,
 $IABI = 14$ cm ise **CFG** üçgeninin çevresi kaç cm'dir?



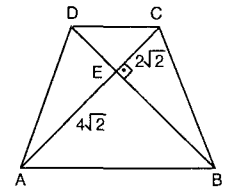
A) 12 B) 14 C) 15 D) 16 E) 18

18. ABCD ikizkenar yamuğunda
 $[AC] \perp [BC]$,
 $[CH] \perp [AB]$,
 $[DE] \perp [AB]$
 $ICDI = 6$ cm,
 $IHBI = 2$ cm ise
IAFI kaç cm'dir?



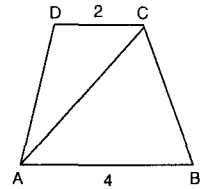
A) 2 B) $\sqrt{5}$ C) $\sqrt{6}$ D) $2\sqrt{2}$ E) $2\sqrt{3}$

19. Şekildeki ABCD ikizkenar yamuğunda
 $[AC] \perp [BD]$,
 $IAEI = 4\sqrt{2}$ cm ve
 $IECI = 2\sqrt{2}$ cm ise
A(ABCD) kaç cm^2 'dir?



A) 36 B) 40 C) 42 D) 48 E) 64

20. ABCD yamuğunda
 $m(\hat{DAB}) = m(\hat{ABC}) = 60^\circ$,
 $IAI = 4$ br ve
 $ICDI = 2$ br ise
IACI kaç br'dir?



A) $\sqrt{3}$ B) 3 C) $2\sqrt{3}$ D) $2\sqrt{5}$ E) 6

YAMUK

TEST

3

1. Şekildeki ABCD yamuğunda, AECD paralelkenar,

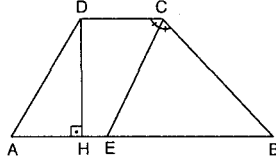
$$m(\widehat{ECD}) = m(\widehat{BCE}),$$

$$[DH] \perp [AB],$$

$$|AD| = 10 \text{ cm},$$

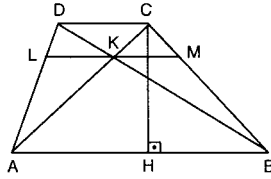
$$|HE| = 3 \text{ cm ve}$$

$$|DC| = 8 \text{ cm ise } A(ABCD) \text{ kaç cm}^2 \text{ dir?}$$



- A) $35\sqrt{3}$ B) $50\sqrt{3}$ C) $65\sqrt{3}$
D) $80\sqrt{3}$ E) $95\sqrt{3}$

2. ABCD yamuğunda $[AB] \parallel [LM] \parallel [DC]$, $[CH] \perp [AB]$, $|AB| = 18 \text{ br}$, $|DC| = 6 \text{ br ve}$ $|CH| = 10 \text{ br ise}$



$$A(DLK) \text{ kaç br}^2 \text{ dir?}$$

- A) $\frac{45}{8}$ B) $\frac{45}{4}$ C) $\frac{35}{8}$ D) $\frac{35}{4}$ E) $\frac{18}{5}$

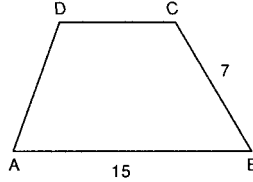
3. ABCD yamuğunda

$$m(\widehat{D}) = 2 \cdot m(\widehat{B})$$

$$|AB| = 15 \text{ cm ve}$$

$$|BC| = 7 \text{ cm ise}$$

$$ABCD \text{ yamuğunun çevresi kaç cm'dir?}$$



- A) 28 B) 35 C) 36 D) 37 E) 44

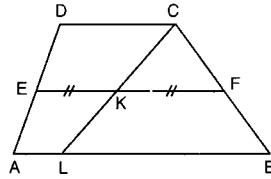
4. Şekildeki ABCD yamuğunda

$$[EF] \text{ orta taban,}$$

$$|EK| = |KF| \text{ ve}$$

$$|EK| = 3 \cdot |AL| \text{ ise}$$

$$\frac{|CD|}{|AB|} \text{ kaçtır?}$$



- A) $\frac{5}{9}$ B) $\frac{4}{7}$ C) $\frac{3}{5}$ D) $\frac{5}{7}$ E) $\frac{3}{4}$

5. Şekildeki ABCD yamuğunda

$$|CE| = 16 \text{ cm},$$

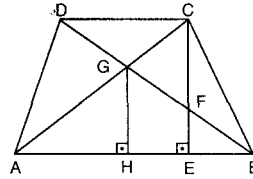
$$[GH] \perp [AB],$$

$$[CE] \perp [AB],$$

$$|DC| = 5 \text{ cm ve}$$

$$|AB| = 15 \text{ cm ise}$$

$$|IGH| \text{ kaç cm'dir?}$$



- A) 6 B) 9 C) 10 D) 11 E) 12

6. ABCD yamuğunda

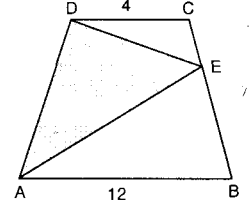
$$3|CE| = |EB|,$$

$$|DC| = 4 \text{ cm},$$

$$|AB| = 12 \text{ cm ve}$$

$$A(\triangle DEC) = 4 \text{ cm}^2 \text{ ise}$$

$$A(\triangle DEA) \text{ kaç cm}^2 \text{ dir?}$$



- A) 12 B) 16 C) 18 D) 24 E) 30

7. ABCD yamuğunda

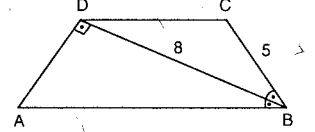
$$[BD] \text{ açıortay}$$

$$m(\widehat{BDA}) = 90^\circ$$

$$|DB| = 8 \text{ cm}$$

$$|BC| = 5 \text{ cm ise}$$

$$|AD| \text{ kaç cm'dir?}$$



- A) 4 B) $2\sqrt{5}$ C) 6 D) 8 E) $4\sqrt{5}$

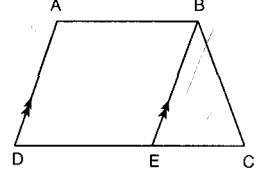
8. ABCD yamuğunda

$$[AD] \parallel [BE],$$

$$4A(\triangle BED) = 5A(\triangle BEC)$$

$$\text{ve } |CD| = 26 \text{ br ise}$$

$$|AB| \text{ kaç br'dir?}$$



- A) 5 B) 6 C) 10 D) 12 E) 16

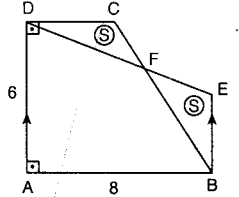
9. Şekilde ABCD dik yamuk, $[EB] \parallel [AD]$,

$$A(\triangle DCF) = A(\triangle FEB),$$

$$|AB| = 8 \text{ br ve}$$

$$|AD| = 6 \text{ br ise}$$

$$\frac{|DC|}{|BE|} \text{ nedir?}$$



- A) $\frac{2}{3}$ B) $\frac{3}{4}$ C) 1 D) $\frac{4}{3}$ E) $\frac{3}{2}$

10. ABCD dik yamuğunda

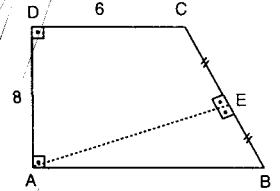
$$[AE] \perp [BC],$$

$$|CE| = |EB|,$$

$$|DC| = 6 \text{ br ve}$$

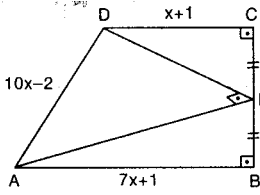
$$|AD| = 8 \text{ br ise}$$

$$A(ABCD) \text{ kaç br}^2 \text{ dir?}$$



- A) 36 B) 64 C) 72 D) 96 E) 108

11.



Şekilde ABCD dik yamuk, $[AE] \perp [DE]$, $ICEI = IEI$,
 $IDCI = (x + 1)$ br, $IABI = (7x + 1)$ br ve
 $IADI = (10x - 2)$ br ise $IDEI^2 + IAEI^2$ toplamı kaç
 br^2 'dir?

A) 216 B) 248 C) 284 D) 289 E) 324

12. ABCD dik yamuğunda

$EF \parallel DC \parallel AB$,

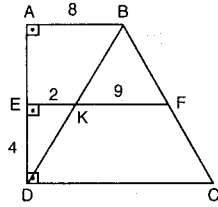
$IEKI = 2$ cm,

$IKFI = 9$ cm,

$IEDI = 4$ cm ve

$IABI = 8$ cm ise

$A(ABCD)$ kaç cm^2 'dir?



A) 120 B) 145 C) 150 D) 160 E) 180

13. Şekilde

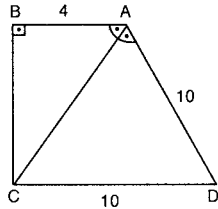
$[AB] \perp [BC]$ ve

$m(\hat{BAC}) = m(\hat{CAD})$ dir.

$IABI = 4$ cm ve

$IADI = ICDI = 10$ cm ise

$A(ABC)$ kaç cm^2 'dir?



A) 12 B) 16 C) 18 D) 20 E) 24

14. Şekilde

$[AB] \perp [BC]$,

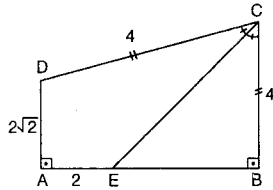
$[AB] \perp [AD]$,

$m(\hat{DCE}) = m(\hat{ECB})$,

$ICDI = ICBI = 4$ br,

$IADI = 2\sqrt{2}$ br ve

$IAEI = 2$ br ise $ICEI$ kaç br'dir?



A) 3 B) 4 C) $3\sqrt{3}$ D) $2\sqrt{7}$ E) $4\sqrt{3}$

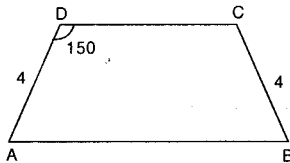
15. Şekildeki ABCD yamuğunda,

$m(\hat{ADC}) = 150^\circ$,

$IADI = IBCI = 4$ cm

ve $IABI = 3IDCI$

olduğuna göre $A(ABCD)$ kaç cm^2 'dir?



A) $2\sqrt{3}$ B) $4\sqrt{3}$ C) $6\sqrt{3}$
D) $8\sqrt{3}$ E) $10\sqrt{3}$

16. ABCD yamuğunda

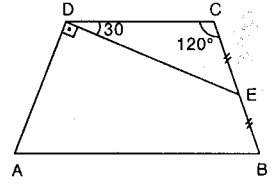
$IABI = 8$ br,

$ICEI = IEI$,

$m(\hat{DCB}) = 120^\circ$

$m(\hat{CDE}) = 30^\circ$

ise $IDCI$ kaç br'dir?



A) $\frac{3}{2}$ B) 2 C) $\frac{8}{3}$ D) 3 E) $\frac{10}{3}$

17. ABCD

yamuğunda

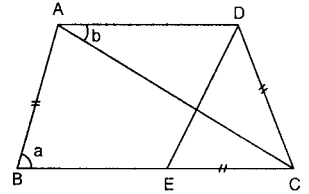
$[AB] \parallel [DE]$

$m(\hat{DAC}) = b$,

$m(\hat{ABC}) = a$,

$a + b = 100^\circ$ ve

$IABI = IDCI = IEI$ ise $a - b$ kaç derecedir?



A) 10 B) 15 C) 20 D) 25 E) 30

18. Şekildeki ABCD

ikizkenar

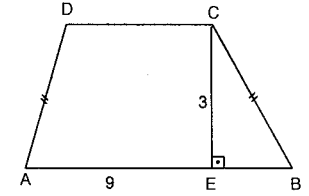
yamuğunda

$[CE] \perp [AB]$,

$IAEI = 9$ br,

$IECI = 3$ br ise

$A(ABCD)$ kaç
 br^2 'dir?



A) 13,5 B) 18 C) 24 D) 27 E) 36

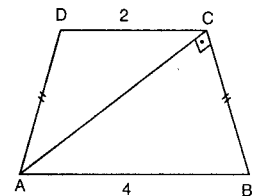
19. ABCD ikizkenar ya-
muk,

$IABI = 4$ cm,

$ICDI = 2$ cm ve

$[AC] \perp [CB]$ ise

$A(ABCD)$ kaç cm^2 'dir?



A) $2\sqrt{3}$ B) 4 C) $3\sqrt{3}$ D) 6 E) $6\sqrt{3}$

20. ABCD ikizkenar

yamuğunda

$[AC] \perp [BD]$,

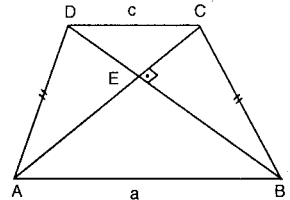
$IABI = a$ br,

$IDCI = c$ br,

$3a = 5c$ ve

$A(ABCD) = 64$ br²

ise yamuğun çevresi kaç br'dir?



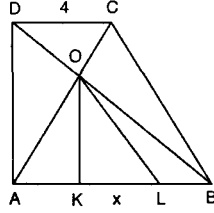
A) $16 + 4\sqrt{17}$ B) $12 + 4\sqrt{17}$
C) $16 + 2\sqrt{17}$ D) $16 + \sqrt{17}$
E) 16

YAMUK

TEST

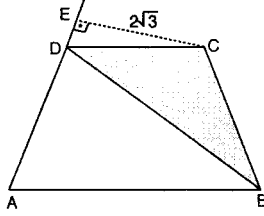
4

1. Şekilde ABCD yamuk,
 $[OK] \parallel [AD]$,
 $[OL] \parallel [BC]$,
 $|AB| = 12$ br,
 $|DC| = 4$ br ise
 $|KL| = x$ kaç br'dir?



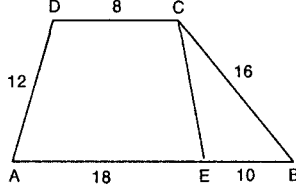
- A) $\frac{13}{2}$ B) 6 C) $\frac{11}{2}$ D) 5 E) $\frac{9}{2}$

2. ABCD yamuğunda
 $A(\triangle DCB) = 8\sqrt{3} \text{ cm}^2$,
 $[EC] \perp [AE]$ ve
 $|EC| = 2\sqrt{3} \text{ cm}$ ise
 $|AD|$ kaç cm'dir?



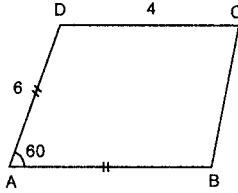
- A) 4 B) 6 C) 8 D) 10 E) 12

3. ABCD yamuğunda
 $|AE| = 18$ br,
 $|EB| = 10$ br,
 $|CB| = 16$ br ve
 $|CD| = 8$ br ise
 $|CE|$ kaç br'dir?



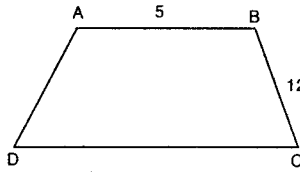
- A) 6 B) 8 C) 10 D) 12 E) 14

4. ABCD yamuğunda
 $m(\hat{DAB}) = 60^\circ$,
 $|AD| = |AB| = 6$ cm
ve $|DC| = 4$ cm ise
 $|BC|$ kaç cm'dir?



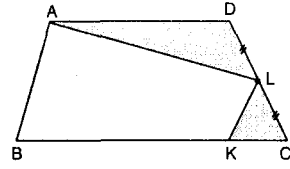
- A) $2\sqrt{6}$ B) $2\sqrt{7}$ C) $3\sqrt{5}$
D) $4\sqrt{6}$ E) $5\sqrt{7}$

5. ABCD yamuk
 $|AB| = 5$ br,
 $|BC| = 12$ br ve
 $m(\hat{B}) = 2m(\hat{D})$ ise
 $|CD|$ kaç br'dir?



- A) 7 B) 10 C) 13 D) 17 E) 26

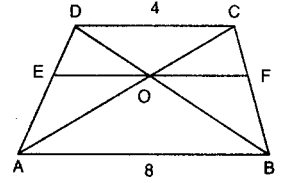
6.



ABCD yamuğunda $[KL] \parallel [AB]$, $|DL| = |LC|$ ve
 $A(\triangle ADL) + A(\triangle KLC) = 24 \text{ br}^2$ ise $A(\triangle BKL)$ kaç
 br^2 'dir?

- A) 45 B) 55 C) 64 D) 68 E) 72

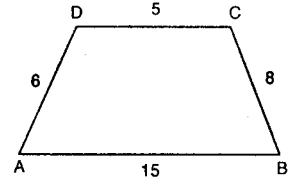
7. ABCD yamuğunda;
 $[EF] \parallel [AB] \parallel [CD]$,
 $|DC| = 4$ br ve
 $|AB| = 8$ br ise
 $|EF|$ kaç br'dir?



- A) $\frac{8}{3}$ B) $\frac{10}{3}$ C) $\frac{14}{3}$ D) $\frac{16}{3}$ E) $\frac{18}{3}$

8.

ABCD yamuğunda;
 $|DC| = 5$ br,
 $|BC| = 8$ br,
 $|AD| = 8$ br ve
 $|AB| = 15$ br ise
 $A(\text{ABCD})$ kaç br^2 'dir?



- A) 12 B) 24 C) 30 D) 38 E) 48

9. Köşegenleri dik kesişen ikizkenar yamuğun alanı
 144 br^2 ise alt ve üst tabanları toplamı kaç br'-
dir?

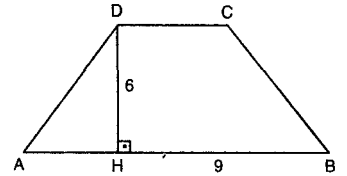
- A) 24 B) 20 C) 18 D) 16 E) 12

10.

ABCD köşegenleri
eşit uzunlukta
olan yamuk-
tur.

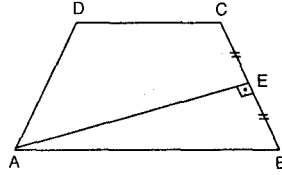
$|BH| = 9$ cm

ve $|DH| = 6$ cm ise $A(\text{ABCD})$ kaç cm^2 'dir?



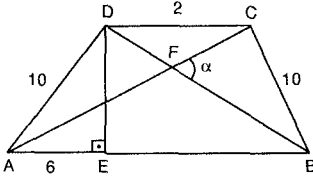
- A) 27 B) 30 C) 36 D) 45 E) 54

11. Yandaki ABCD yamuğunda
 $|CE| = |EB|$,
 $[AE] \perp [BC]$ ve
 $|AD| = |BC| = |DC|$
 ise $m(\hat{D})$ kaç
 derecedir?



- A) 124 B) 118 C) 114 D) 108 E) 106

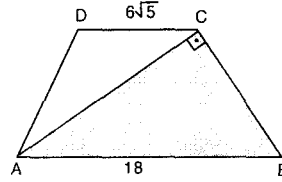
12.



- Şekildeki ABCD ikizkenar yamuğunda
 $|AD| = |BC| = 10$ cm, $|AE| = 6$ cm, $|DC| = 2$ cm ve
 $m(\hat{CFB}) = \alpha$ kaç derecedir?

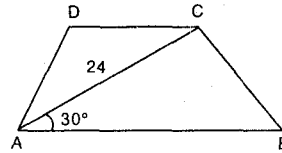
- A) 45 B) 60 C) 75 D) 90 E) 120

13. ABCD ikizkenar yamuğunda
 $|AB| = 18$ cm,
 $|DC| = 6\sqrt{5}$ cm ve
 $[AC] \perp [BC]$ ise ta-
 ralı alan kaç
 cm^2 'dir?



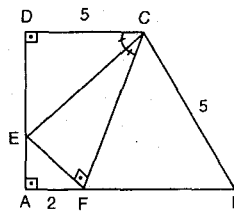
- A) 48 B) 54 C) 60 D) 72 E) 80

14. ABCD ikizkenar yamuğunda
 $m(\hat{BAC}) = 30^\circ$,
 $|AC| = 24$ br ise
 $A(ABCD)$ kaç
 br^2 'dir?



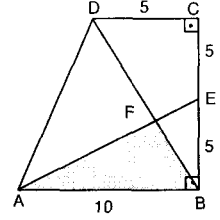
- A) $160\sqrt{3}$ B) $150\sqrt{3}$ C) $144\sqrt{3}$
 D) $136\sqrt{3}$ E) $120\sqrt{3}$

15. Şekildeki ABCD dik yamuğunda,
 $[EF] \perp [FC]$,
 $[CE]$ açkırtay,
 $|DC| = |BC| = 5$ br,
 $|AF| = 2$ br ise
 $A(ABCD)$ kaç br^2 'dir?



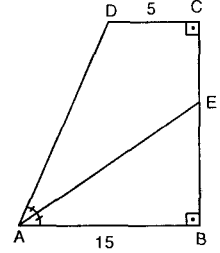
- A) 26 B) 28 C) 39 D) 42 E) 51

16. Şekildeki ABCD dik yamuğunda,
 $|BE| = |EC| = |DC| = 5$ br,
 $|AB| = 10$ br ise
 $A(\hat{AFB})$ kaç br^2 'dir?



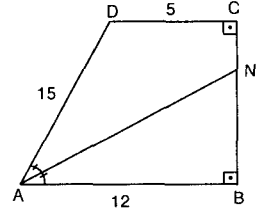
- A) 30 B) 25 C) 20 D) 18 E) 15

17. ABCD dik yamuk
 $[AE]$ açıortay,
 $2|EB| = 3|EC|$
 $|AB| = 15$ br ve
 $|CD| = 5$ br ise
 $|BE|$ kaç br'dir?



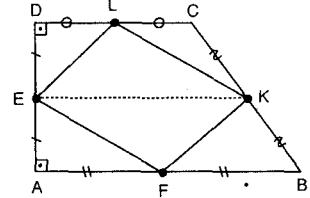
- A) 2 B) $2\sqrt{5}$ C) 3 D) $3\sqrt{5}$ E) 5

18. ABCD dik yamuğunda
 $[AN]$ açıortay
 $|AD| = 15$ br,
 $|DC| = 5$ br ve
 $|AB| = 12$ br ise $\frac{|NC|}{|NB|}$
 oranı kaçtır?



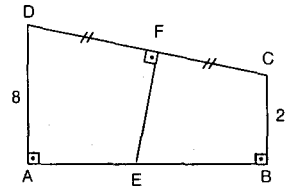
- A) $\frac{2}{3}$ B) $\frac{3}{4}$ C) $\frac{5}{6}$ D) $\frac{7}{8}$ E) $\frac{8}{9}$

19. Şekilde ABCD dik yamuk ve
 E, F, K, L
 bulundukları
 kenarların orta
 noktalarıdır.
 $|EK| \cdot |EA| = 6$ br²
 ise $A(\hat{AEF}) + A(\hat{LCK})$ toplamı kaç br^2 'dir?



- A) $\frac{3}{2}$ B) 3 C) 4 D) $\frac{9}{2}$ E) 6

20. ABCD dik yamuk
 $|AD| = 8$ cm,
 $|BC| = 2$ cm,
 $|AB| = 10$ cm,
 $|DF| = |FC|$ ve
 $[EF] \perp [DC]$ ise
 $|EA|$ kaç cm'dir?



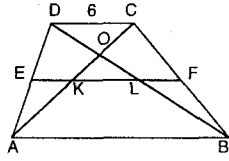
- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{7}{2}$ E) 4

YAMUK

TEST

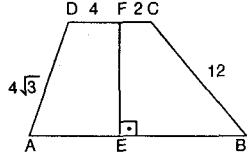
5

1. ABCD yamuğunda
[EF] orta taban,
|DC| = 6 cm ve
 $2|OA| = 7|OK|$ ise
|AB| kaç cm dir?



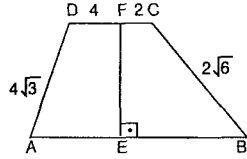
A) 10 B) 12 C) 14 D) 16 E) 18

2. ABCD yamuğunda
|EB| = 2|AE|,
|DF| = 4 cm,
|FC| = 2 cm,
|AD| = $4\sqrt{3}$ cm,
|BC| = 12 cm ve
[EF] ⊥ [AB] ise
|AB| kaç cm dir?



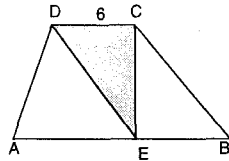
A) 12 B) 14 C) 15 D) 16 E) 18

3. Şekildeki ABCD yamuğunda
|DF| = 4 cm,
|AB| = 12 cm,
|BC| = $2\sqrt{6}$ cm,
|FC| = 2 cm ve
|AD| = $4\sqrt{3}$ cm ise
|IEFI| kaç cm dir?



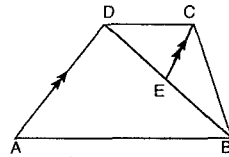
A) 4 B) $2\sqrt{5}$ C) $\sqrt{23}$ D) $3\sqrt{3}$ E) $\sqrt{30}$

4. ABCD yamuğunda
|DC| = 6 br ve
 $\frac{A(\widehat{DCE})}{A(\widehat{ABCD})} = \frac{1}{4}$ ise
|AB| kaç br dir?



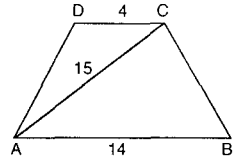
A) 12 B) 15 C) 16 D) 18 E) 20

5. ABCD yamuğunda
[EC] // [AD]
 $A(\widehat{DEC}) = 8 \text{ br}^2$ ve
 $A(\widehat{EBC}) = 4 \text{ br}^2$ ise
 $A(\widehat{ABCD})$ kaç br^2 dir?



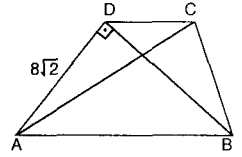
A) 28 B) 30 C) 32 D) 36 E) 40

6. ABCD ikizkenar yamuğunda
|DC| = 4 br,
|AC| = 15 br ve
|AB| = 14 br ise
|AD| kaç br dir?



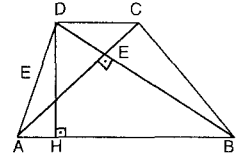
A) 11 B) 12 C) 13 D) 14 E) 15

7. ABCD yamuğunda
[AD] ⊥ [BD],
|AD| = |BD| = $8\sqrt{2}$ cm,
|AC| = |AB| ise
 $m(\widehat{DAC})$ kaç derecedir?



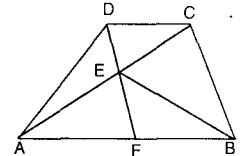
A) 12 B) 15 C) 18 D) 24 E) 30

8. ABCD yamuğunda
[BD] ⊥ [AC],
[DH] ⊥ [AB]
|AC| = 6 cm ve
|BD| = 8 cm ise
|DH| kaç cm dir?



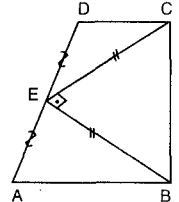
A) 3,6 B) 4 C) 4,2 D) 4,5 E) 4,8

9. ABCD yamuğunda
[DF] // [CB] ve
 $A(\widehat{BEC}) = 16 \text{ cm}^2$ ise
 $A(\widehat{ADC})$ kaç cm^2 dir?



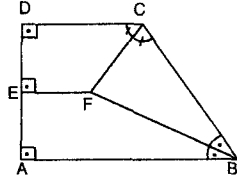
A) 8 B) 12 C) 16 D) 24 E) 32

10. ABCD dörtgeninde
[AB] // [DC],
[EC] ⊥ [EB],
|EC| = |EB|,
|ED| = |AE| ve
 $A(\widehat{ABCD}) = 72 \text{ cm}^2$ ise
|BC| kaç cm dir?



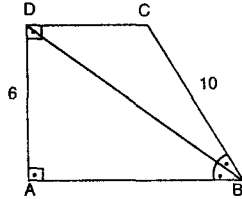
A) 8 B) 10 C) 12 D) 14 E) 16

11. ABCD dik yamuğunda
[CF] ve [BF] açıortaylar,
[EF] $\perp$ [AD],
IEFI = 3 br ve
IBCI = 12 br ise
A(ABCD) kaç br² dir?



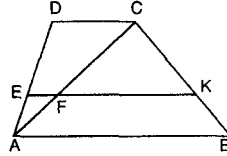
A) 54 B) 52 C) 48 D) 42 E) 36

12. ABCD yamuğunda
[BD] açıortay,
IADI = 6 cm ve
IBCI = 10 cm ise
A(ABCD) kaç cm² dir?



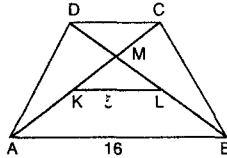
A) 60 B) 72 C) 80 D) 84 E) 96

13. ABCD dörtgeninde
[EK] $\parallel$ [DC] $\parallel$ [AB],
IEFI = 3 cm,
IDCI = 9 cm ve
IFKI = 12 cm ise
IABI kaç cm dir?



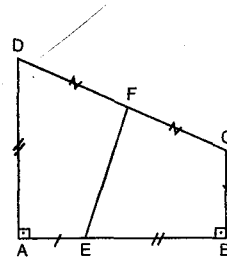
A) 24 B) 18 C) 16 D) 15 E) 14

14. ABCD yamuğunda
IAKI = IKCI,
IBLI = ILDI,
IKLI = 5 br ve
IABI = 16 br ise
IDCI kaç br dir?



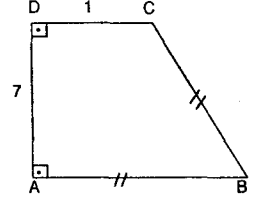
A) 6 B) $\frac{13}{2}$ C) 7 D) $\frac{15}{2}$ E) 8

15. ABCD dik yamuğunda
IDFI = IFCI,
IBCI = IAEI,
IADI = IEBI ve
IEFI = $3\sqrt{2}$ br ise
IAEI² + IEBI² kaç br² dir?



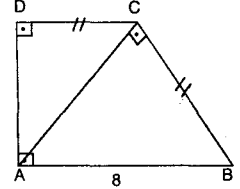
A) 6 B) 16 C) 18 D) 32 E) 36

16. ABCD dik yamuğunda
IDCI = 1 br,
IADI = 7 br ve
IBCI = IABI ise
IBCI kaç br dir?



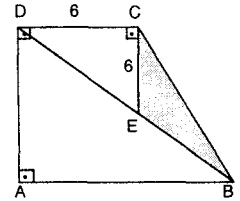
A) 9 B) 12 C) 15 D) 18 E) 25

17. ABCD dik yamuğunda
[AC] $\perp$ [BC],
IDCI = IBCI ve
IABI = 8 cm ise
IDCI kaç cm dir?



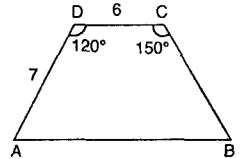
A) $4\sqrt{5} - 6$ B) $8\sqrt{5} - 16$ C) $8\sqrt{5} - 8$
D) $4\sqrt{5} - 2$ E) $4\sqrt{5} - 4$

18. ABCD dik yamuğunda
IDCI = ICEI = 6 cm ve
 $\widehat{A(BEC)} = 18 \text{ cm}^2$ ise
A(ABCD) kaç cm² dir?



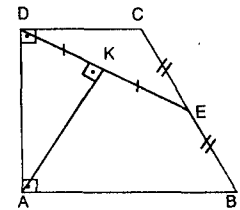
A) 108 B) 104 C) 96 D) 80 E) 72

19. Şekildeki ABCD yamu-
ğunda
 $\widehat{m(ADC)} = 120^\circ$,
 $\widehat{m(BCD)} = 150^\circ$,
IDCI = 6 br ve
IADI = 7 br ise
IBCI kaç br dir?



A) $4\sqrt{3}$ B) $5\sqrt{3}$ C) $6\sqrt{3}$ D) $7\sqrt{3}$ E) $8\sqrt{3}$

20. ABCD dik yamuğunda
[AK] $\perp$ [DE],
IDKI = IKEI,
ICEI = IEBI,
IADI = $8\sqrt{3}$ br,
IDCI = 8 br ve
IABI = 16 br ise
IAKI kaç br dir?

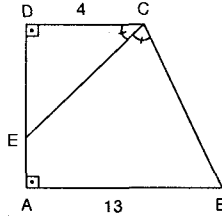


A) 8 B) $8\sqrt{2}$ C) 12 D) $8\sqrt{3}$ E) 14

YAMUK

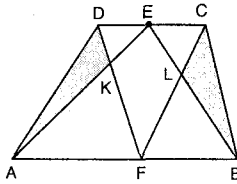
TEST 6

1. ABCD dik yamuğunda
[CE] açıortay
 $|DE| = 2|AE|$
 $|DC| = 4$ cm ve
 $|AB| = 13$ cm ise
 $|AE|$ kaç cm'dir?



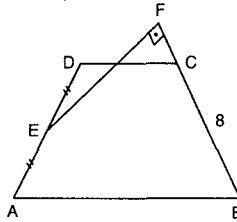
A) 3 B) 4 C) 5 D) 6 E) 8

2. Şekildeki ABCD yamuğunda
 $A(\triangle ADK) = 13 \text{ cm}^2$ ve
 $A(\triangle BCL) = 11 \text{ cm}^2$ ise
 $A(\triangle EKL)$ kaç cm^2 'dir?



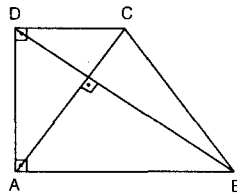
A) 18 B) 20 C) 24 D) 26 E) 28

3. ABCD yamuğunda
[EF] $\perp$ [BF],
 $|AE| = |ED|$,
 $|BC| = 8$ cm ve
 $|EF| = 6$ cm ise
 $A(\text{ABCD})$ kaç cm^2 'dir?



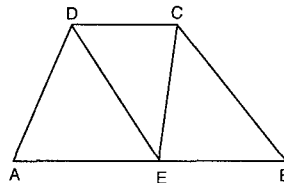
A) 24 B) 28 C) 32 D) 36 E) 48

4. ABCD dik yamuğunda
[AC] $\perp$ [BD] ve $\frac{|DC|}{|AB|} = \frac{1}{3}$
ise $m(\angle DCA)$ kaç derecedir?



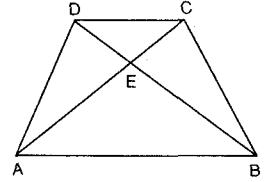
A) 15 B) 30 C) 45 D) 60 E) 75

5. ABCD yamuğunda
 $|AB| = 2|DC|$ ve
 $A(\text{ABCD}) = 24 \text{ cm}^2$
ise $A(\triangle DCE)$ kaç cm^2 'dir?



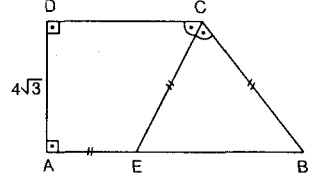
A) 4 B) 6 C) 8 D) 10 E) 12

6. Şekildeki ABCD yamuğunda
 $A(\triangle AEB) - A(\triangle ADE) = 4br^2$
ve $A(\text{ABCD}) = 18 br^2$
ise $A(\triangle ECB)$ kaç br^2 'dir?



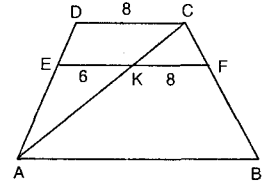
A) 3 B) 4 C) 5 D) 6 E) 8

7. ABCD dik yamuğunda
[CE] açıortay,
 $|AE| = |CE| = |CB|$
ve $|AD| = 4\sqrt{3}$ cm
ise $A(\text{ABCD})$ kaç cm^2 'dir?



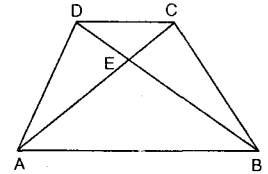
A) $32\sqrt{3}$ B) $36\sqrt{3}$ C) $42\sqrt{3}$
D) $48\sqrt{3}$ E) $56\sqrt{3}$

8. ABCD yamuğunda
[DC] $\parallel$ [EF] $\parallel$ [AB],
 $|DC| = 8$ cm,
 $|EK| = 6$ cm ve
 $|KF| = 8$ cm ise
 $|AB|$ kaç cm'dir?



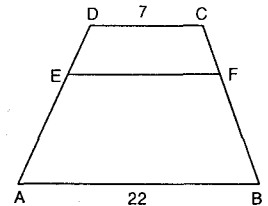
A) 32 B) 28 C) 24 D) 18 E) 16

9. Şekildeki ABCD yamuğunda
 $|AC| = 20$ cm,
 $|BD| = 21$ cm ve
 $|AB| + |DC| = 29$ cm
ise $m(\angle CEB)$ kaç derecedir?



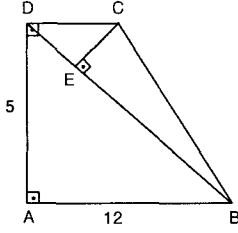
A) 45 B) 60 C) 75 D) 90 E) 105

10. ABCD dörtgeninde
[AB] $\parallel$ [DC] $\parallel$ [EF],
 $3|AD| = 10|ED|$,
 $|DC| = 7$ cm ve
 $|AB| = 22$ cm ise $|EF|$ kaç cm'dir?



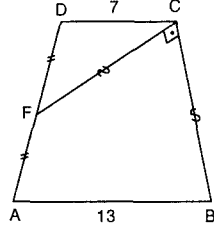
A) 11 B) 11,5 C) 12 D) 13 E) 14,5

11. ABCD dik yamuğunda
 $[CE] \perp [DB]$,
 $ADI = 5$ cm,
 $ABI = 12$ cm ve
 $A(\triangle DEC) = 10$ cm² ise
 $IEBI$ kaç cm'dir?



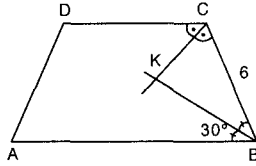
- A) $13 - 2\sqrt{3}$ B) 9 C) 8
 D) $13 - 4\sqrt{3}$ E) $13 - 6\sqrt{3}$

12. ABCD yamuğunda;
 $m(\angle FCB) = 90^\circ$,
 $IFDI = IFAI$,
 $ICFI = ICBI$,
 $ABI = 13$ br,
 $IDCI = 7$ br ise
DFC üçgeninin alanı kaç br²dir?



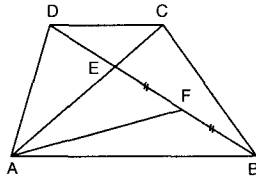
- A) 12 B) 14 C) 15 D) 18 E) 20

13. ABCD yamuğunda
 $m(\angle KBA) = 30^\circ$ ve
 $ICBI = 6$ br ise
[AB] tabanına ait yükseklik kaç br'dir?



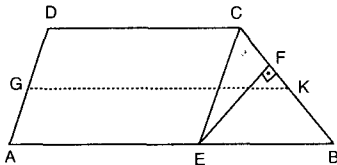
- A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $3\sqrt{3}$ D) $\frac{3\sqrt{3}}{2}$ E) $4\sqrt{3}$

14. Şekildeki ABCD yamuğunda
 $IEFI = IFBI$,
 $A(\triangle DEC) = 3$ cm² ve
 $A(\triangle AFB) = 6$ cm² ise
A(ABCD) kaç cm²dir?



- A) 24 B) 27 C) 30 D) 32 E) 36

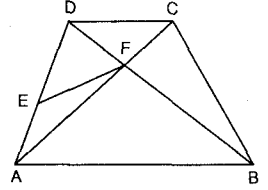
15.



Şekildeki ABCD yamuğunda GK orta taban uzunluğu 12 br, $IBCI = IEBI$, $[EF] \perp [BC]$ ve $IEFI = 8$ br ise **A(ABCD) kaç br²dir?**

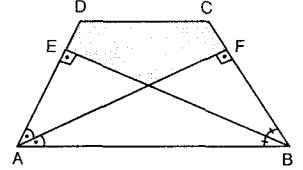
- A) 48 B) 64 C) 96 D) 120 E) 132

16. ABCD yamuğunda
 $A(\triangle FCB) = 18$ br² ve
 $A(\triangle AEF) = 7,2$ br² ise
 $\frac{IDEI}{ADI}$ oranı kaçtır?



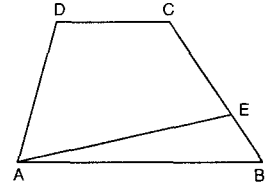
- A) $\frac{1}{5}$ B) $\frac{3}{10}$ C) $\frac{2}{5}$ D) $\frac{3}{5}$ E) $\frac{2}{3}$

17. Şekilde ABCD yamuk [AF] ve [BE] açıortaylardır.
 $[DA] \perp [EB]$,
 $[AF] \perp [BC]$,
 $ABI = 6$ br ve
 $IDCI = 1$ br ise **taralı alan kaç br²dir?**



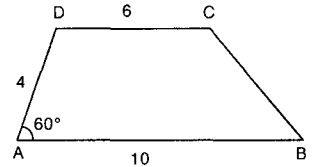
- A) $\frac{10\sqrt{3}}{4}$ B) $\frac{11\sqrt{3}}{4}$ C) $3\sqrt{3}$
 D) $\frac{13\sqrt{3}}{4}$ E) $\frac{7\sqrt{3}}{2}$

18. ABCD yamuğunda
 $IBCI = 4IEBI$,
 $ABI = 2IDCI$ ve
 $A(\triangle ADCE) = k \cdot A(\triangle AEB)$
 ise **k kaçtır?**



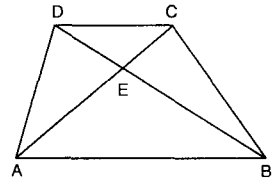
- A) $\frac{5}{2}$ B) 3 C) $\frac{7}{2}$ D) 4 E) 5

19. Şekilde ABCD yamuk,
 $ABI = 10$ cm,
 $ADI = 4$ cm,
 $IDCI = 6$ cm'dir.
 $m(\angle DAB) = 60^\circ$
 ise **A(ABCD) kaç cm²dir?**



- A) $8\sqrt{3}$ B) $14\sqrt{3}$ C) $16\sqrt{3}$
 D) $18\sqrt{3}$ E) $24\sqrt{3}$

20. ABCD yamuğunda
 $IACI = 5$ cm,
 $IBDI = 12$ cm ve
 $ABI + IDCI = 13$ cm
 ise **A(ABCD) kaç cm²dir?**



- A) 18 B) 24 C) 30 D) 32 E) 36

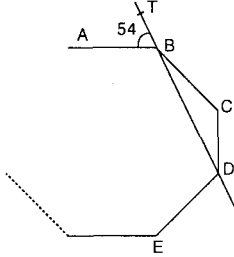
TARAMA - 1

1. Aşağıda verilen çokgenlerden hangisinde tüm köşegen uzunlukları eşit değildir?

- A) Kare
B) İkizkenar yamuk
C) Dikdörtgen
D) Paralelkenar
E) Düzgün beşgen

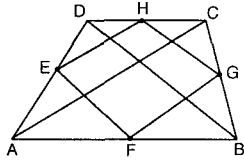
2. Şekilde A, B, C, D, E düzgün çokgenin ardışık köşeleridir. T, B, D doğrusal olup

$m(\hat{ABT}) = 54^\circ$ ise
çokgenin bir iç açısı kaç derecedir?



- A) 150 B) 144 C) 140 D) 135 E) 120

3. Şekildeki ABCD dörtgeninde E, F, G, H noktaları orta noktadır. **FGHE** dörtgeninin kare olması için aşağıdakilerden hangisi verilmelidir?



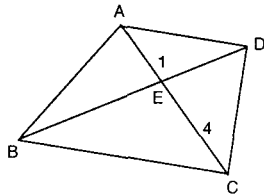
- A) $IAI = IBDI$
B) $[AC] \perp [BD]$
C) $IAI = 2IBDI$
D) $IAI = IBDI$ ve $[AC] \perp [BD]$
E) $IAI = 2IBDI$ ve $[AC] \perp [BD]$

4. Köşegen sayısı 54 olan düzgün çokgenin bir dış açısının ölçüsünün bir iç açısının ölçüsüne oranı nedir?

- A) $\frac{1}{4}$ B) $\frac{1}{5}$ C) $\frac{1}{8}$ D) $\frac{1}{9}$ E) $\frac{1}{12}$

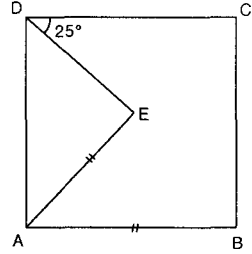
5. ABCD dörtgeninde $IAEI = 1$ br ve $IECI = 4$ br ise

$\frac{A(\triangle ABD)}{A(ABCD)}$ oranı kaçtır?



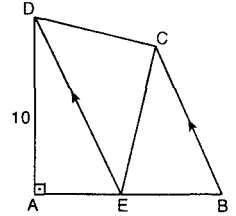
- A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{1}{4}$ D) $\frac{1}{5}$ E) $\frac{1}{6}$

6. ABCD karesinde $IAEI = IABI$ ve $m(\hat{CDE}) = 25^\circ$ ise **$m(\hat{EAB})$ kaç derecedir?**



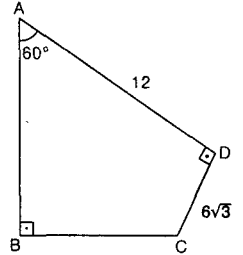
- A) 30 B) 35 C) 40 D) 45 E) 50

7. ABCD dörtgeninde $[DE] \parallel [CB]$
 $[DA] \perp [AB]$
 $IAI = 10$ br ve
 $IABI = 24$ br ise
 $A(ADCE)$ kaç br² dir?



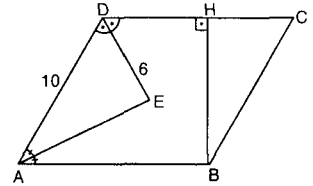
- A) 80 B) 90 C) 100 D) 120 E) 240

8. ABCD dörtgeninde $IAI = 12$ cm,
 $ICDI = 6\sqrt{3}$ cm,
 $m(\hat{B}) = m(\hat{D}) = 90^\circ$ ve
 $m(\hat{BAD}) = 60^\circ$ ise
 $IABI$ kaç cm dir?



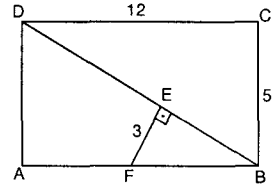
- A) 15 B) 18 C) 21 D) 24 E) 25

9. ABCD paralelkenarında $[DE]$, $[AE]$ açıortaydır. $[BH] \perp [DC]$, $IAI = 10$ cm, $IDEI = 6$ cm ise **$IBHI$ kaç cm dir?**



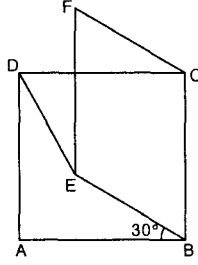
- A) $\frac{24}{5}$ B) $\frac{32}{5}$ C) $\frac{36}{5}$ D) $\frac{42}{5}$ E) $\frac{48}{5}$

10. ABCD dikdörtgeninde $IEFI = 3$ cm,
 $IDCI = 12$ cm ve $IBCI = 5$ cm ise
 $A(AFED)$ kaç cm² dir?



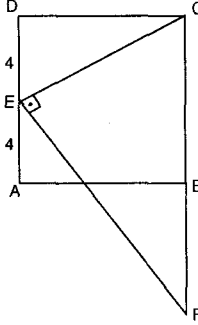
- A) 19 B) 19,2 C) 20 D) 20,2 E) 21

11. Şekilde ABCD kare, EBCF eşkenar dörtgen, $m(\widehat{EBA}) = 30^\circ$ ve $|DE| = (\sqrt{6} + \sqrt{2})$ br ise $\widehat{C(ABCD)}$ kaç br dir?



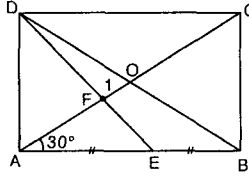
- A) $4 + 4\sqrt{3}$ B) $4 + 8\sqrt{3}$ C) $8 + 4\sqrt{3}$
D) $16 + 4\sqrt{3}$ E) $16 + 8\sqrt{3}$

12. Şekilde ABCD kare $m(\widehat{CEF}) = 90^\circ$, $|DE| = |EA| = 4$ cm ise $|BF|$ kaç cm dir?



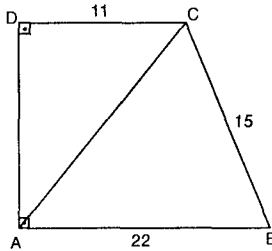
- A) 12 B) 16 C) 18 D) 20 E) 24

13. ABCD dikdörtgeninde $m(\widehat{CAB}) = 30^\circ$, $|AE| = |EB|$ ve $|FO| = 1$ br ise $A(ABCD)$ kaç br² dir?



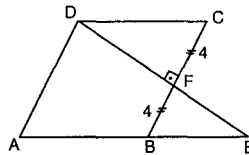
- A) $4\sqrt{3}$ B) $6\sqrt{3}$ C) $9\sqrt{3}$
D) $12\sqrt{3}$ E) $16\sqrt{3}$

14. Şekildeki ABCD dik yamuğunda $m(\widehat{D}) = m(\widehat{A}) = 90^\circ$, $|BA| = 22$ cm, $|DC| = 11$ cm ve $|BC| = 15$ cm ise $|AC|$ kaç cm dir?



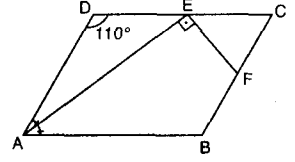
- A) 15 B) 12 C) 11 D) 9 E) 8

15. ABCD eşkenar dörtgeninde $|CF| = |FB| = 4$ cm, $|DE| \perp |BC|$ ve $|FE| = 4\sqrt{3}$ cm ise $A(ABFD)$ kaç cm² dr?



- A) 20 B) 22 C) $18\sqrt{3}$
D) $20\sqrt{3}$ E) $24\sqrt{3}$

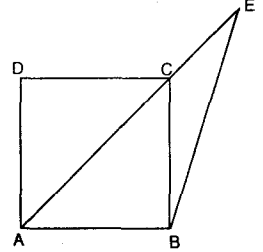
16. ABCD paralelkenarında $[AE]$ açıortay, $m(\widehat{D}) = 110^\circ$ ve $m(\widehat{AEF}) = 90^\circ$ ise



$m(\widehat{EFC})$ kaç derecedir?

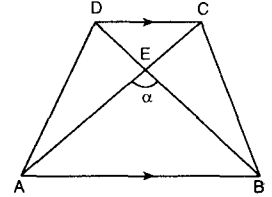
- A) 45 B) 48 C) 50 D) 52 E) 55

17. Şekilde ABCD kare, A,C,E doğrusal $|AC| = |BE|$, $|CE| = (2\sqrt{3} - 2)$ br ise karenin bir kenar uzunluğu kaç br dir?



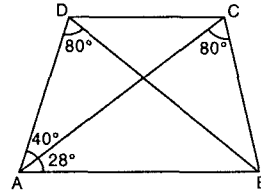
- A) $\sqrt{2}$ B) $2\sqrt{2}$ C) $3\sqrt{2}$ D) 4 E) $4\sqrt{2}$

18. Şekildeki ABCD yamuğunda $|AB| + |DC| = 15$ br, $|AC| = 9$ br, $|BD| = 12$ br ve $m(\widehat{AEB}) = \alpha$ kaç derecedir?



- A) 45 B) 60 C) 75
D) 90 E) 120

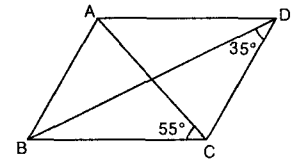
19.



ABCD dörtgeninde, $m(\widehat{ADB}) = m(\widehat{ACB}) = 80^\circ$, $m(\widehat{DAC}) = 40^\circ$ ve $m(\widehat{CAB}) = 28^\circ$ ise $m(\widehat{ACD})$ kaç derecedir?

- A) 24 B) 28 C) 30 D) 32 E) 34

20. ABCD dörtgeninde $|AB| = |AC| = |CD|$, $m(\widehat{BDC}) = 35^\circ$ ve $m(\widehat{ACB}) = 55^\circ$ ise



$m(\widehat{ADB})$ kaç derecedir?

- A) 15 B) 20 C) 25 D) 30 E) 35

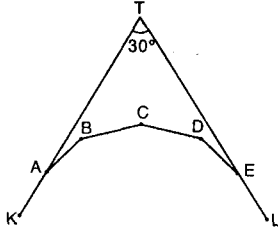
TARAMA - 2

1. Köşegen sayısı kenar sayısının $\frac{5}{2}$ katına eşit olan düzgün konveks çokgenin bir iç açısı bir dış açısının kaç katıdır?

A) $\frac{3}{2}$ B) 2 C) 3 D) $\frac{7}{2}$ E) 4

2. Şekilde K, A, B, C, D, E, L düzgün konveks çokgenin ardışık köşeleridir.

$m(\hat{K\hat{T}L}) = 30^\circ$ ise çokgenin bir iç açısının ölçüsü kaç derecedir?



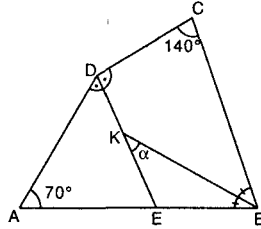
A) 150 B) 144 C) 140
D) 135 E) 120

3. ABCD dörtgeninde [DE] ve [BK] açıortay

$m(\hat{C}) = 140^\circ$ ve

$m(\hat{A}) = 70^\circ$ ise

$m(\hat{EKB}) = \alpha$ kaç derecedir?

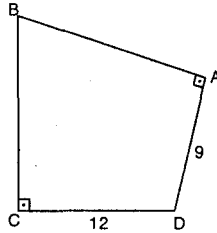


A) 30 B) 35 C) 40 D) 45 E) 50

4. ABCD dörtgeninin kenar uzunlukları tamsayıdır.

$m(\hat{C}) = m(\hat{A}) = 90^\circ$ ise

IBCİ . IBAI en büyük değeri kaçtır?



A) 1001 B) 999 C) 997
D) 996 E) 992

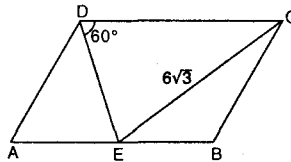
5. ABCD paralelkenarında

IAEI = IEBI = IBCI

$m(\hat{EDC}) = 60^\circ$ ve

IECI = $6\sqrt{3}$ br ise

Ç(ABCD) kaç br dir?



A) 24 B) 26 C) 30 D) 32 E) 36

6. ABCD eşkenar dörtgeninde

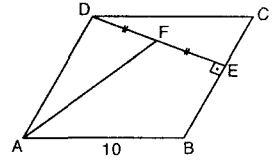
IABI = 10 cm ,

[DE] ⊥ [BC] ,

IDFI = IFEI ve

A(ABCD) = 80 cm² ise

IAFI kaç cm dir?



A) $3\sqrt{10}$ B) $4\sqrt{6}$ C) $2\sqrt{28}$
D) $2\sqrt{29}$ E) $2\sqrt{30}$

7. Şekilde

$m(\hat{A}) = m(\hat{F}) = m(\hat{B}) = 90^\circ$

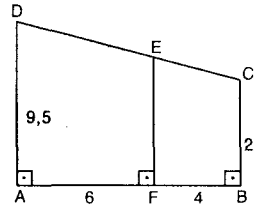
IBCI = 2 br ,

IAFI = 9,5 br ,

IBFI = 4 br ve

IAFI = 6 br ise

IEFI kaç br dir?



A) 3 B) 3,5 C) 5 D) 5,5 E) 6

8. ABCD paralelkenarında

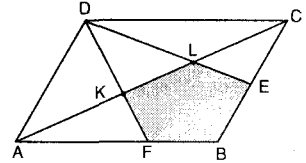
IAFI = IFBI ,

IBEI = IECI olup

taralı alan 44 br²

ise A(DKL) kaç

br² dir?



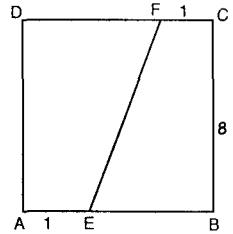
A) 22 B) 20 C) 18 D) 16 E) 11

9. ABCD karesinde

IAEI = IFCI = 1 cm ve

IBCI = 8 cm ise

IEFI kaç cm dir?



A) 9 B) 10 C) 11 D) 12 E) 13

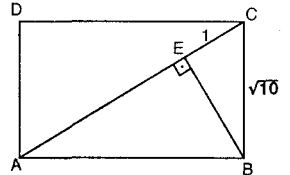
10. ABCD dikdörtgeninde

IECI = 1 cm ,

IBCI = $\sqrt{10}$ cm ise

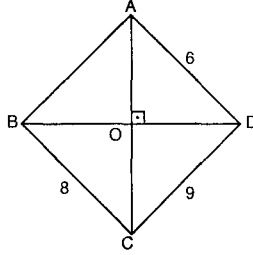
A(ABCD) kaç cm²

dir?



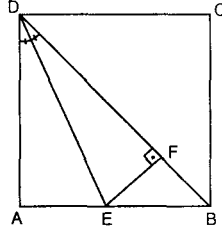
A) 15 B) $15\sqrt{10}$ C) 20
D) 30 E) $30\sqrt{10}$

11. ABCD dörtgeninde,
 $[AC] \perp [OD]$,
 $IAOI = 6 \text{ cm}$,
 $IBOI = 8 \text{ cm}$,
 $ICOI = 9 \text{ cm}$ ise
 $IAOI$ kaç cm dir?



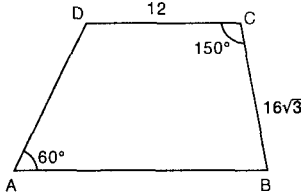
- A) $\frac{\sqrt{19}}{2}$ B) $\sqrt{19}$ C) $\sqrt{21}$
 D) 19 E) 21

12. Şekildeki ABCD karesinde
 $[DE]$ açıortay,
 $[EF] \perp [BD]$ ve
 $A(ABCD) = 12 + 8\sqrt{2} \text{ br}^2$
 ise $IFBI$ kaç br dir?



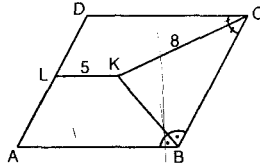
- A) 4,5 B) 4 C) 3,5
 D) 3 E) 2

13. ABCD yamuğunda
 $m(\hat{A}) = 60^\circ$,
 $m(\hat{C}) = 150^\circ$,
 $IDCI = 12 \text{ br}$ ve
 $IBCI = 16\sqrt{3} \text{ br}$
 ise $\angle(ABCD)$ kaç br dir?



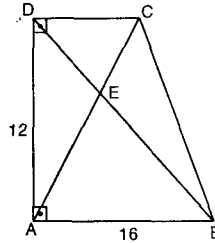
- A) $48 + 16\sqrt{3}$ B) $54 + 16\sqrt{3}$ C) $62 + 16\sqrt{3}$
 D) $68 + 16\sqrt{3}$ E) $72 + 16\sqrt{3}$

14. ABCD eşkenar dörtgeninde
 $[LK] \parallel [AB]$
 $ILKI = 5 \text{ br}$,
 $IKCI = 8 \text{ br}$,
 $[BK]$ ve $[CK]$ açıortay
 $IDLI = ILAI$ ise $IKBI$ kaç br dir?



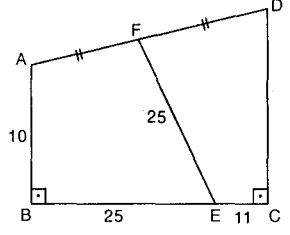
- A) 2 B) 3 C) 4 D) 6 E) 7

15. ABCD yamuğunda
 $m(\hat{D}) = m(\hat{A}) = 90^\circ$,
 $IAOI = IBOI$,
 $IAOI = 12 \text{ br}$,
 $IAOI = 16 \text{ br}$ ise
 $IBCI$ kaç br dir?



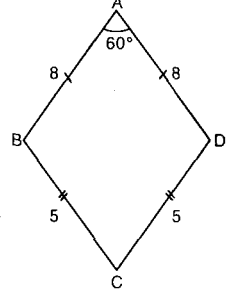
- A) $12\sqrt{2}$ B) 14 C) $16\sqrt{2}$
 D) 18 E) $20\sqrt{2}$

16. Şekildeki
 $m(\hat{B}) = m(\hat{C}) = 90^\circ$
 $IAFI = IFDI$,
 $IFEI = IEBI = 25 \text{ cm}$
 $IECI = 11 \text{ cm}$ ve
 $IAOI = 10 \text{ cm}$ ise
 $IDCI$ kaç cm dir?



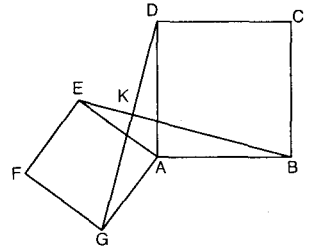
- A) 30 B) 34 C) 38 D) 42 E) 44

17. ABCD deltoidinde
 $IAOI = IAOI = 8 \text{ cm}$,
 $m(\hat{A}) = 60^\circ$,
 $IBCI = IDOI = 5 \text{ cm}$ ise
 $A(ABCD)$ kaç cm^2 dir?



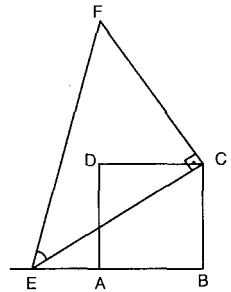
- A) $8 + 16\sqrt{3}$ B) $12 + 16\sqrt{3}$
 C) $16 + 16\sqrt{3}$ D) $18 + 20\sqrt{3}$
 E) $20 + 20\sqrt{3}$

18. ABCD ve AEFG
 kare,
 B, K, E ve D, K,
 G noktaları doğrusal ise
 $m(\hat{BKG})$ kaç derecedir?



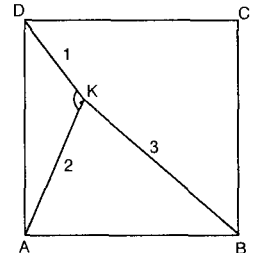
- A) 75 B) 90 C) 105 D) 120 E) 135

19. ABCD kare ve
 $[EC] \perp [CF]$ ve
 B, A, E ve A, D, F
 noktaları doğrusal ise
 $m(\hat{CEF})$ kaç derecedir?



- A) 75 B) 60
 C) 45 D) 30
 E) 15

20. ABCD kare,
 $IBKI = 3 \text{ br}$,
 $IAKI = 2 \text{ br}$ ve
 $IKDI = 1 \text{ br}$ ise
 $m(\hat{AKD})$ kaç derecedir?



- A) 150 B) 135 C) 120 D) 100 E) 90

TARAMA - 3

1. Köşegen sayısı kenar sayısının 6 katının 7 eksiği olan düzgün çokgenin iç açılarının ölçüleri toplamı kaç dık açıdır?

A) 16 B) 18 C) 20 D) 24 E) 26

2. Şekildeki ABCD dörtgeninde

$$m(\hat{ACB}) = 32^\circ,$$

$$m(\hat{CBD}) = 28^\circ,$$

$$|AC| = 8 \text{ br ve}$$

$$|BD| = 14 \text{ br ise}$$

A(ABCD) kaç br² dir?

A) $28\sqrt{3}$ B) 36 C) $36\sqrt{3}$
D) $40\sqrt{3}$ E) 72

3. Şekilde ABCD paralelkenar,
[AE] ⊥ [EC],
[AC] ⊥ [DF],

$$A(\hat{ECD}) = m(\hat{CAB}),$$

$$|AF| = 4 \text{ br},$$

$$|BC| = 5 \text{ br ise}$$

|AC| kaç br dir?

A) 16 B) 15 C) 12 D) 10 E) 9

4. Şekilde ACDEF düzgün beşgen,
B, C, D doğrusal
|AE| = |BD| ise,

m(∠BAC) kaç derecedir?

A) 30 B) 36 C) 45 D) 60 E) 75

5. ABCD paralelkenarında

$$m(\hat{EFB}) = m(\hat{C}),$$

$$m(\hat{AEF}) = 150^\circ \text{ ise}$$

m(∠FBC) kaç derecedir?

A) 75 B) 60 C) 48 D) 42 E) 30

6. Şekildeki ABCD dörtgeninde,

$$m(\hat{BAD}) = 90^\circ,$$

$$|AC| = 3|AK|,$$

$$|AB| = 3 \text{ br},$$

$$|AD| = 4 \text{ br ise}$$

A(ABCD) kaç br² dir?

A) 36 B) 32 C) 30 D) 24 E) 18

7. Şekilde ABCD paralelkenar,
[AE] ⊥ [EC],
[BF] ⊥ [AD],

$$|ED| = 5 \text{ cm},$$

$$|DF| = 7 \text{ cm ve}$$

$$|FA| = 6 \text{ cm ise}$$

|FB| kaç cm dir?

A) 7,2 B) 8,4 C) 9,6
D) 14,4 E) 16,2

8. Şekilde ABCD kare, EFC eşkenar üçgen, |CE| = |CB| ve
|AD| = $6\sqrt{3}$ br ise
|KB| kaç br dir?

A) $6\sqrt{3} - 1$ B) $6\sqrt{3} - 2$ C) $6\sqrt{3} - 4$
D) $6\sqrt{3} - 5$ E) $6\sqrt{3} - 6$

9. Şekilde ABCD kare

$$m(\hat{FDC}) = 15^\circ,$$

$$|BF| = |FC| \text{ ve}$$

$$|BK| = 8 \text{ cm ise}$$

|ED| kaç cm dir?

A) 16 B) 24
C) 32 D) 36
E) 64

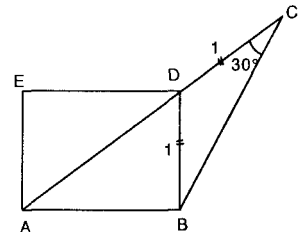
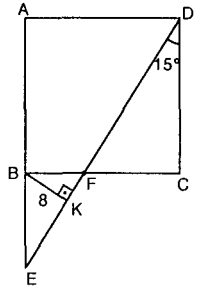
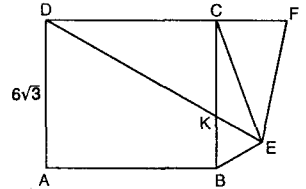
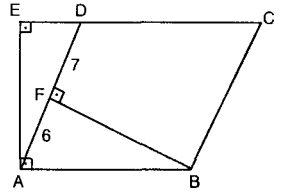
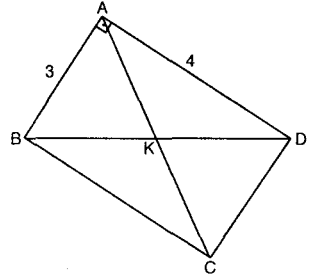
10. Şekilde ABDE dikdörtgen,
A, D, C doğrusal

$$m(\hat{C}) = 30^\circ \text{ ve}$$

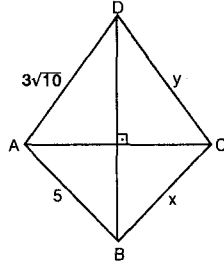
$$|BD| = |DC| = 1 \text{ br}$$

ise **A(ABDE) kaç br² dir?**

A) $\sqrt{3}$ B) 2 C) $2\sqrt{3}$ D) 4 E) $4\sqrt{3}$

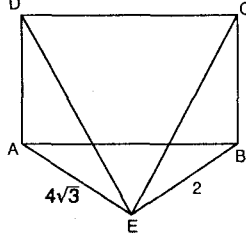


11. Şekildeki x ile y aralarında asal iki sayı,
 $IADI = 3\sqrt{10}$ br,
 $IABI = 5$ br,
 $IDCI = y$ br ve
 $IBCI = x$ br ise
 $x \cdot y$ kaç br^2 dir?



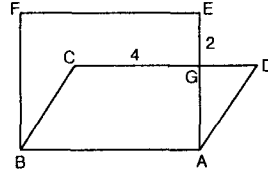
A) 36 B) 45 C) 56 D) 63 E) 70

12. Şekilde ABCD dikdörtgen,
 $IABI = ICEI = 10$ br,
 $IAEI = 4\sqrt{3}$ br ve
 $IEBI = 2$ br ise
 ΔDEC kaç br^2 dir?



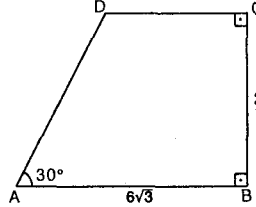
A) 24 B) $24\sqrt{3}$ C) 48
D) $48\sqrt{3}$ E) 64

13. Şekilde ABCD eşkenar dörtgen,
BAEF karedir.
 $IEGI = 2$ cm ve
 $ICGI = 4$ cm ise
 $A(ABCD)$ kaç cm^2 dir?



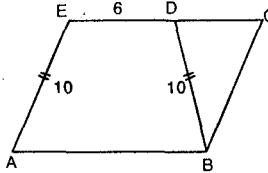
A) 121 B) 100 C) 80 D) 64 E) 49

14. Şekildeki ABCD dik yamuğunda,
 $m(\hat{A}) = 30^\circ$,
 $m(\hat{B}) = m(\hat{C}) = 90^\circ$,
 $IBCI = 2$ cm ve
 $IABI = 6\sqrt{3}$ cm ise
 $A(ABCD)$ kaç cm^2 dir?



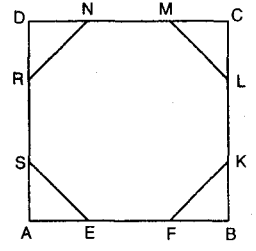
A) 8 B) $8\sqrt{3}$ C) $10\sqrt{3}$
D) $12\sqrt{3}$ E) 36

15. Şekilde
 $[EC] \parallel [AB]$,
 $[EA] \parallel [BC]$,
 $IEAI = IBDI = 10$ br
 $IEDI = 6$ br ve
 $m(\hat{A}) = m(\hat{DBC})$ ise
 $\Delta(ABCE)$ kaç br dir?



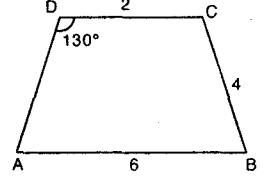
A) 26 B) 32 C) 42 D) 48 E) 52

16. Şekilde ABCD kare,
EFLMNRS düzgün sekizgendir.
 $IABI = 4 + 2\sqrt{2}$ br ise
sekizgenin alanı kaç br^2 dir?



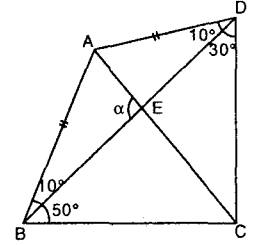
A) $8(1 + \sqrt{2})$ B) $10(1 + \sqrt{2})$ C) $12(1 + \sqrt{2})$
D) $16(1 + \sqrt{2})$ E) $16 + 8\sqrt{2}$

17. ABCD yamuğunda
 $[AB] \parallel [DC]$,
 $m(\hat{D}) = 130^\circ$,
 $IDCI = 2$ cm,
 $IBCI = 4$ cm ve
 $IABI = 6$ cm ise
 $m(\hat{CBA})$ kaç derecedir?



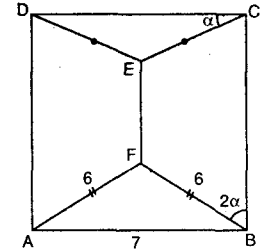
A) 60 B) 65 C) 70 D) 75 E) 80

18. ABCD dörtgeninde
 $IABI = IADI$,
 $m(\hat{ABD}) = 10^\circ$,
 $m(\hat{ADB}) = 10^\circ$,
 $m(\hat{BDC}) = 30^\circ$ ve
 $m(\hat{DBC}) = 50^\circ$ ise
 $m(\hat{AEB}) = \alpha$ kaç derecedir?



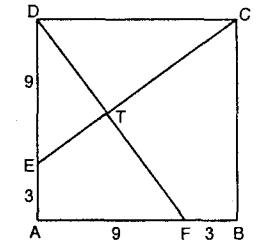
A) 90 B) 95 C) 100 D) 105 E) 110

19. ABCD kare
 $ICEI = IDEI$,
 $IAFI = IBFI = 6$ br
 $IABI = 7$ br,
 $m(\hat{DCE}) = \alpha$ ve
 $m(\hat{CBF}) = 2\alpha$ ise
IEFI kaç br dir?



A) 1 B) 2 C) 3 D) 3,5 E) 4

20. ABCD kare
 $IAEI = IBFI = 3$ br
 $IAFI = IDEI = 9$ br ise
IDTI kaç br dir?



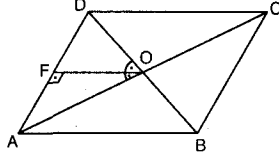
A) 6 B) 6,2 C) 7 D) 7,2 E) 8

TARAMA - 4

1. Kenar sayıları oranı $\frac{1}{2}$ köşegen sayıları oranı $\frac{1}{5}$ olan iki düzgün çokgenin iç açılarının ölçüleri toplamının oranı aşağıdakilerden hangisidir?

A) $\frac{2}{7}$ B) $\frac{3}{8}$ C) $\frac{5}{8}$ D) $\frac{3}{16}$ E) $\frac{7}{16}$

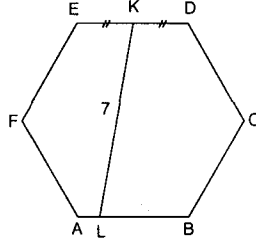
2. ABCD paralelkenarında [DB] ve [AC] köşegen, $m(\hat{D}\hat{O}\hat{F}) = m(\hat{F}\hat{O}\hat{A})$, $[OF] \perp [AD]$ ise



$m(\hat{A}\hat{B}\hat{C})$ kaç derecedir?

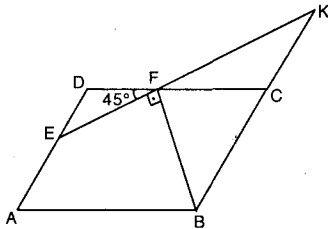
A) 90 B) 120 C) 135 D) 145 E) 150

3. Şekildeki düzgün altıgende IEKI = IKDI, ILBI = 3.IALI ve IKLI = 7 br ise $A(ABCDEF)$ kaç br² dir?



A) $16\sqrt{3}$ B) $18\sqrt{3}$ C) $24\sqrt{3}$
D) $36\sqrt{3}$ E) $46\sqrt{3}$

4.



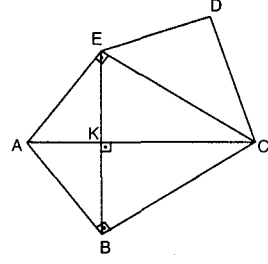
ACBD paralelkenarında

$IAEI = IEDI$, $[EF] \perp [FB]$, $m(\hat{D}\hat{F}\hat{E}) = 45^\circ$ ve

$A(\hat{\Delta}DEF) = A(\hat{\Delta}FCB)$ ise $\frac{IFBI}{IFKI}$ oranı kaçtır?

A) 5 B) 4 C) 3 D) 2 E) 1

5.



ABCDE beşgen, DEC eşkenar üçgen

$m(\hat{A}\hat{E}\hat{C}) = m(\hat{A}\hat{B}\hat{C}) = 90^\circ$, $[AC] \perp [BE]$,

$IABI = IAEI$ ve $IAKI = \frac{IACI}{4} = 1$ br ise

$\frac{A(ABCE)}{A(\hat{\Delta}DEC)}$ oranı kaçtır?

A) $\frac{4}{5}$ B) $\frac{4}{3}$ C) $\frac{4\sqrt{3}}{3}$
D) $\frac{7\sqrt{3}}{3}$ E) $7\sqrt{3}$

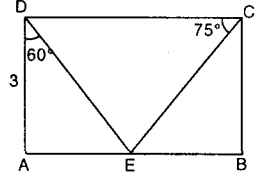
6. ABCD dikdörtgeninde,

$m(\hat{A}\hat{D}\hat{E}) = 60^\circ$,

$m(\hat{D}\hat{C}\hat{E}) = 75^\circ$ ve

$IADI = 3$ br ise

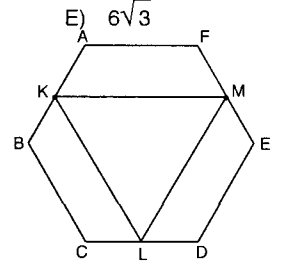
$IEBI$ kaç br dir?



A) $3 - \sqrt{3}$ B) $3\sqrt{3}$ C) $6 - 3\sqrt{3}$

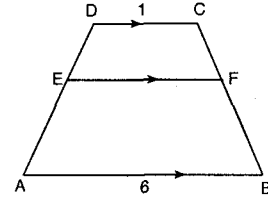
7. ABCDEF düzgün altıgen, K, M ve L bulunduğu kenarların orta noktaları

$A(\hat{\Delta}KLM) = 36\sqrt{3}$ br² ise altıgenin alanı kaç br² dir?



A) $48\sqrt{3}$ B) 96 C) $96\sqrt{3}$
D) $144\sqrt{3}$ E) $216\sqrt{3}$

8.



Şekilde, $[AB] \parallel [EF] \parallel [DC]$, $IDCI = 1$ br,

$IABI = 6$ br ve $4A(EFCD) = 3A(ABFE)$ ise

$IEFI$ kaç br dir?

A) $\frac{3}{2}$ B) 2 C) 3 D) 4 E) $\frac{9}{2}$

9. Şekilde ABCD kare,

$$m(\widehat{EDK}) = 45^\circ,$$

$$m(\widehat{E}) = 60^\circ,$$

$$IEDI = 4 \text{ br},$$

Ç(ABCD) kaç br dir?

- A) $6\sqrt{2}$ B) $6\sqrt{3}$ C) $8\sqrt{3}$
D) $8\sqrt{6}$ E) $10\sqrt{6}$

10. ABCD paralelkenarında

$$IAFI = IFCI,$$

$$[FK] \perp [AB],$$

$$[FE] \perp [BC],$$

$$IFKI = \frac{5}{2} \text{ br},$$

$$IFEI = 4 \text{ br ve}$$

$$IBCI = 5 \text{ br ise } \mathbf{\text{Ç(ABCD) kaç br dir?}}$$

- A) 26 B) 30 C) 32 D) 44 E) 52

11. ABCD dikdörtgeninde

$$[AC] \perp [DF],$$

$$D, E, F \text{ ve } C, B, F$$

$$\text{doğrusal}$$

$$IECI = 10 \text{ br},$$

$$IAEI = 8 \text{ br ise}$$

$$\mathbf{IBFI \text{ kaç br dir?}}$$

- A) 2 B) 3 C) 4 D) 5 E) 6

12. Bir eşkenar dörtgenin köşegen uzunlukları 8 cm ve 6 cm dir. **Eşkenar dörtgenin iç bölgesinde alınan bir noktanın kenarlara olan uzaklıkları toplamı kaç br dir?**

- A) 7,2 B) 8,4 C) 9,6
D) 10,2 E) 12,6

13. ABDE karesinde

$$IDCI = IBCI,$$

$$IAFI = IFCI \text{ ise},$$

$$\frac{\Delta A(AEF)}{\Delta A(ABCD)} \text{ oranı kaç-}$$

$$\text{tır?}$$

- A) $\frac{1}{8}$ B) $\frac{1}{6}$ C) $\frac{1}{5}$ D) $\frac{1}{4}$ E) $\frac{1}{3}$

14. ABCD ikizkenar yamuğunda

$$[AC] \perp [BD],$$

$$IADI = IBCI,$$

$$[AB] \parallel [DC],$$

$$IDCI = 1 \text{ cm ve}$$

$$IABI = 3 \text{ cm ise}$$

$$\mathbf{A(ABCD) \text{ kaç cm}^2 \text{ dir?}}$$

- A) 12 B) 9 C) 8 D) 6 E) 4

15. ABCE paralelkenarında
 $IEDI = IDC I$ ve
 $A(ABCE) = 96 \text{ br}^2$ ise **taralı alanlar toplamı kaç br² dir?**

- A) 14 B) 26 C) 32 D) 40 E) 42

16. ABCD ve KLCM birer karedir.

$$IAKI = 6 \text{ cm},$$

$$IKBI = 5 \text{ cm ise}$$

$$\mathbf{A(KLCM) \text{ kaç cm}^2 \text{ dir?}}$$

- A) 7 B) 9 C) 10 D) 12 E) 14

17. ABCD karesinde

$$IABI = 3 \text{ cm ve}$$

$$IEFI = 6\sqrt{2} \text{ cm}$$

$$\text{ise}$$

$$\mathbf{m(\widehat{DFA}) \text{ kaç de-}} \\ \mathbf{recedir?}$$

- A) 15 B) 22,5 C) 25
D) 30 E) 33,5

18. ABCD yamuk,

$$IEDI = 2IEI,$$

$$\Delta A(EAB) = 9 \text{ cm}^2 \text{ ve}$$

$$\Delta A(EDC) = 12 \text{ cm}^2 \text{ ise}$$

$$\mathbf{A(ABCD) \text{ kaç cm}^2 \text{ dir?}}$$

- A) 36 B) 45 C) 48 D) 54 E) 72

19. ABCD yamuk

$$[AB] \parallel [KL] \parallel [DC],$$

$$A(ABLK) = A(KLCD),$$

$$IABI = 5 \text{ br ve}$$

$$ICDI = 3 \text{ br ise}$$

$$\mathbf{IKLI \text{ kaç br dir?}}$$

- A) 4 B) $\sqrt{17}$ C) $3\sqrt{2}$
D) $2\sqrt{5}$ E) $2\sqrt{6}$

20. ABCD paralelkenar,

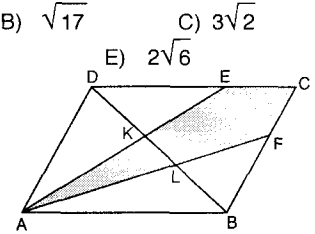
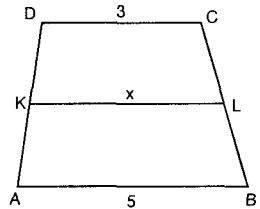
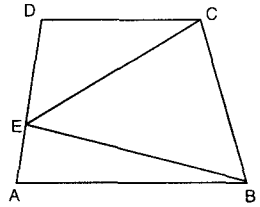
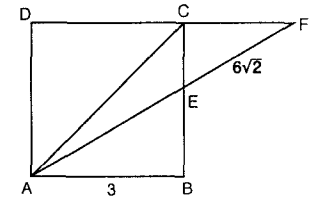
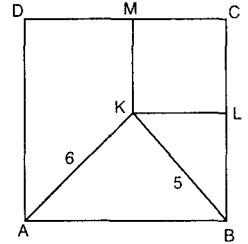
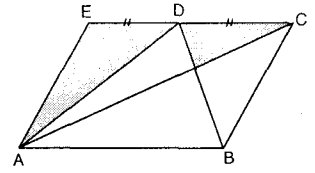
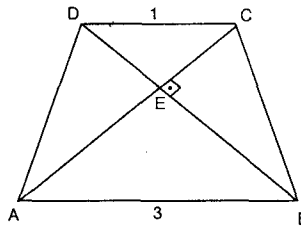
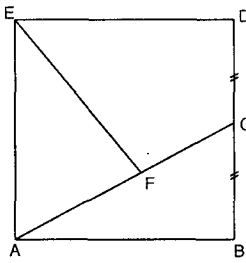
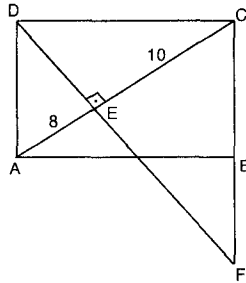
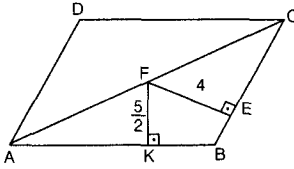
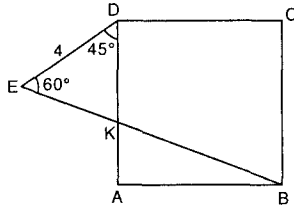
$$IDEI = 2IECI \text{ ve}$$

$$IBFI = IFCI \text{ ise}$$

$$\mathbf{A(KECFL) \text{ oranı}}$$

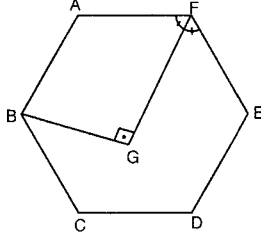
$$\mathbf{A(AKL) \text{ nedir?}}$$

- A) 3 B) $\frac{21}{8}$ C) $\frac{15}{2}$ D) $\frac{17}{8}$ E) $\frac{15}{8}$



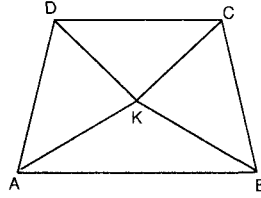
TARAMA - 5

1. ABCDEF düzgün altıgen,
[BG] $\perp$ [FG],
 $m(\widehat{AFG}) = m(\widehat{GFE})$
ise $\frac{|BG|}{|GF|}$ oranı
nedir?



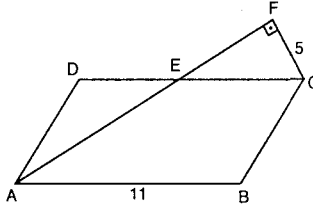
- A) $\frac{\sqrt{3}}{3}$ B) $\sqrt{3}$ C) $\sqrt{2}$
D) $\frac{2\sqrt{3}}{3}$ E) 1

2. ABCD dörtgeninin iç
teğet çemberinin
merkezi K ise,
 $m(\widehat{DKA}) + m(\widehat{CKB})$
kaç derecedir?



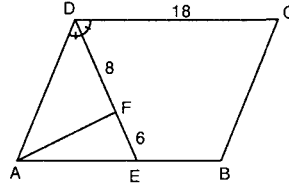
- A) 120 B) 135 C) 145 D) 160 E) 180

3. ABCD paralel-
kenarında
|AE| = |EC|,
|AB| = 11 cm,
|FC| = 5 cm ise
A(ABCD) kaç
 cm^2 dir?



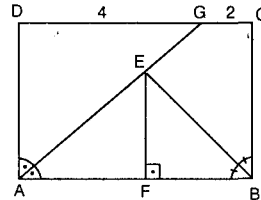
- A) 30 B) 44 C) 55 D) 64 E) 110

4. ABCD paralelke-
narında
[DE] açıortay,
|DF| = 8 br,
|FE| = 6 br,
|DC| = 18 br ve
|AE| = |EB| ise
|AF| kaç br dir?



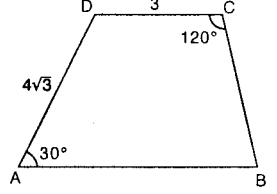
- A) 6 B) $\sqrt{33}$ C) $2\sqrt{15}$
D) $3\sqrt{15}$ E) 9

5. ABCD dikdörtge-
ninde
[AG] ve [BE] açıor-
tay,
|GC| = 2 cm,
|DG| = 4 cm ve
[EF] $\perp$ [AB] ise
|EG| kaç cm dir?



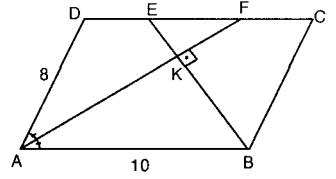
- A) $\sqrt{2}$ B) $2\sqrt{2}$ C) $2\sqrt{3}$
D) $3\sqrt{3}$ E) $4\sqrt{3}$

6. ABCD yamuğunda
[DC] $\parallel$ [AB],
 $m(\widehat{A}) = 30^\circ$,
 $m(\widehat{C}) = 120^\circ$,
|DC| = 3 br ve
|AD| = $4\sqrt{3}$ br ise
|AB| kaç br dir?



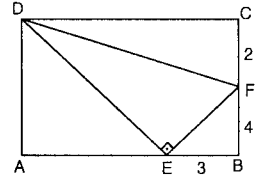
- A) 8 B) 9 C) 10 D) 11 E) 20

7. Şekildeki
ABCD paralel-
kenarında
|AD| = 8 br,
|AB| = 10 br,
[AF] açıortay
ve [BE] $\perp$ [AF]
ise **|EK|^2 + |KF|^2** kaç br^2 dir?



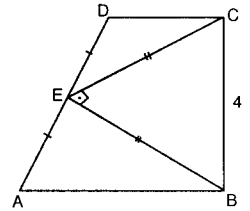
- A) 25 B) 36 C) 49 D) 64 E) 81

8. ABCD dikdörtgeninde
[DE] $\perp$ [EF],
|CF| = 2 br,
|FB| = 4 br ve
|EB| = 3 br ise
|DF| kaç br dir?



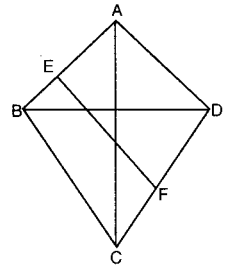
- A) $2\sqrt{5}$ B) $3\sqrt{5}$ C) $5\sqrt{5}$
D) $6\sqrt{6}$ E) $7\sqrt{6}$

9. Şekilde
[DC] $\parallel$ [AB],
[CE] $\perp$ [EB],
|DE| = |AE|,
|EC| = |EB| ve
|CB| = 4 cm ise
A(ABCD) kaç cm^2 dir?



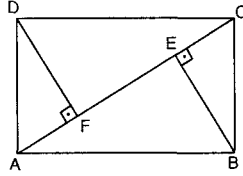
- A) 8 B) 10 C) 16 D) 18 E) 24

10. ABCD deltoidinde
|AB| = |AD|,
|BC| = |CD|
E, [AB] nin, F, [CD] nin
orta noktasıdır.
|AC| = 16 br ve
|EF| = 10 br ise **A(ABCD)**
kaç br^2 dir?



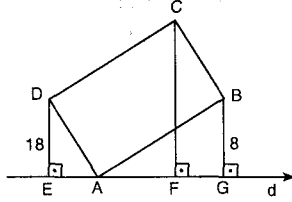
- A) 66 B) 70 C) 74 D) 82 E) 96

11. ABCD dikdörtgeninde
 $IAFI = IECI = \frac{IFEI}{2}$ ise
 $m(\hat{CBE})$ kaç derecedir?



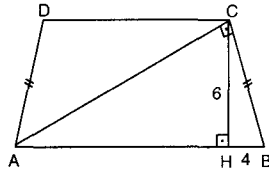
A) 15 B) 30 C) 45 D) 60 E) 75

12. Şekildeki ABCD eşkenar dörtgen,
 $[DE] \perp d$,
 $[CF] \perp d$,
 $[BG] \perp d$,
 $IDEI = 18$ br,
 $IBGI = 8$ br ve
 $ICFI = 2x - 6$ br ise x kaçtır?



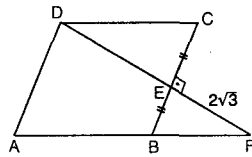
A) 10 B) 12 C) 16 D) 18 E) 20

13. Şekilde
 $IADI = IBCI$,
 $[DC] \parallel [AB]$,
 $[AC] \perp [BC]$,
 $ICHI = 6$ cm,
 $IHBI = 4$ cm ise
 $A(ABCD)$ kaç cm^2 dr?



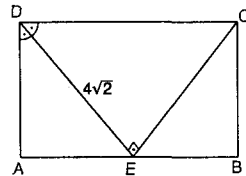
A) 27 B) 32 C) 48 D) 54 E) 62

14. ABCD eşkenar dörtgeninde
 $[DF] \perp [BC]$,
 $IEBI = IECI$ ve
 $IEFI = 2\sqrt{3}$ br ise
 $\angle(ABCD)$ kaç br dir?



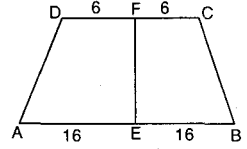
A) 10 B) 12 C) 15 D) 16 E) 20

15. ABCD dikdörtgeninde
 $m(\hat{ADE}) = m(\hat{EDC})$,
 $IDEI = 4\sqrt{2}$ cm ve
 $[DE] \perp [EC]$ ise
 $A(ABCD)$ kaç cm^2 dir?



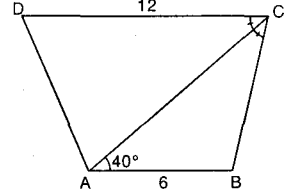
A) 24 B) 28 C) 32 D) 40 E) 44

16. Şekilde,
 $[DC] \parallel [AB]$,
 $IDFI = IFCI = 6$ br,
 $IAEI = IEBI = 16$ br
 $m(\hat{A}) = 2x + 40$ ve
 $m(\hat{B}) = 50 - 2x$ ise
 $IFEI$ kaç br dir?



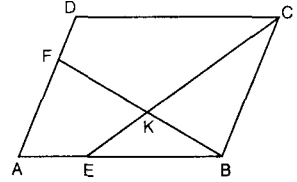
A) 10 B) 11 C) 12 D) 13 E) 15

17. ABCD yamuğunda
 $[AB] \parallel [CD]$,
 $m(\hat{CAB}) = 40^\circ$,
 $[CA]$ açıortay,
 $IABI = 6$ cm ve
 $ICDI = 12$ cm ise
 $m(\hat{D})$ kaç derecedir?



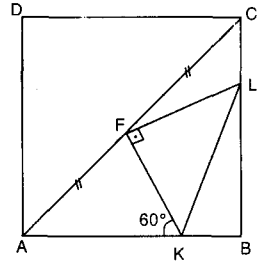
A) 45 B) 50 C) 55 D) 60 E) 65

18. ABCD paralelkenar,
 $\frac{IEBI}{IAEI} = \frac{3}{2}$ ve
 $\frac>IDFI}{IAFI} = \frac{1}{2}$ ise
 $\frac{IKFI}{IKBI}$ oranı nedir?



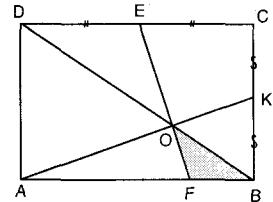
A) $\frac{7}{2}$ B) $\frac{5}{2}$ C) 2 D) $\frac{3}{2}$ E) $\frac{4}{3}$

19. ABCD kare,
 $[KF] \perp [FL]$,
 $m(\hat{AKF}) = 60^\circ$ ve
 $IAFI = IFCI$ ise
 $m(\hat{FKL})$ kaç derecedir?



A) 15 B) 30 C) 36 D) 45 E) 60

20. ABCD dikdörtgen
 $ICEI = IEDI$,
 $IBKI = IKCI$ ve
 $A(\hat{FOB}) = 1$ br² ise
 $A(ABCD)$ kaç br² dir?



A) 48 B) 36 C) 24 D) 20 E) 12

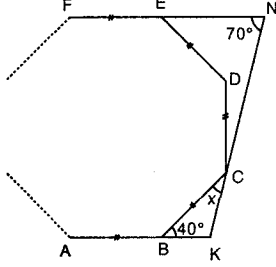
TARAMA - 6

1. A, B, C, D, E, F,... bir düzgün çokgenin ardışık köşeleridir.

$$m(\widehat{FNK}) = 70^\circ \text{ ve}$$

$$m(\widehat{CBK}) = 40^\circ \text{ ise,}$$

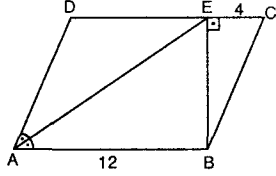
$$m(\widehat{BCK}) = x \text{ kaç derecedir?}$$



- A) 5 B) 10 C) 15 D) 20 E) 30

2. ABCD paralelkenarında, [AE] açıortay, $|AB| = 12$ br, $|EC| = 4$ br ve $[BE] \perp [DC]$ ise,

$$m(\widehat{AEB}) \text{ kaç derecedir?}$$



- A) 20 B) 35 C) 40 D) 55 E) 60

3. ABCD paralelkenarında,

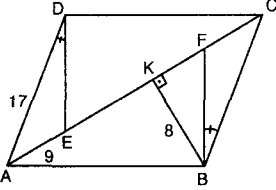
$$m(\widehat{ADE}) = m(\widehat{CBF})$$

$$[BK] \perp [AC],$$

$$|AD| = 17 \text{ br,}$$

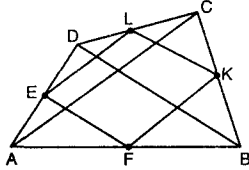
$$|AE| = 9 \text{ br ve}$$

$$|BK| = 8 \text{ br ise, } |FB| \text{ kaç br dir?}$$



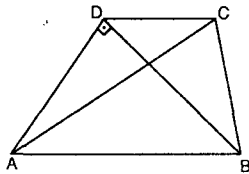
- A) 5 B) 7 C) 8 D) 10 E) 12

4. ABCD dörtgeninde E, F, K, L orta noktalardır. $\angle(EFKL) = 21$ cm ise $|AC| + |DB|$ kaç cm dir?



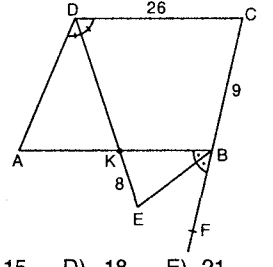
- A) 10,5 B) 11 C) 15 D) 17,5 E) 21

5. ABCD yamuğunda, $[DC] \parallel [AB]$, $m(\widehat{ADB}) = 90^\circ$, $|AD| = |DB| = 3\sqrt{2}$ br ve $|AC| = |AB|$ ise, $m(\widehat{CAB})$ kaç derecedir?



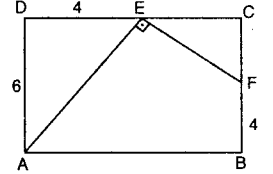
- A) 15 B) 25 C) 30 D) 35 E) 40

6. ABCD paralelkenarında [DE], [BE] açıortay, $|BC| = 9$ cm, $|DC| = 26$ cm ve $|EK| = 8$ cm ise $|EB|$ kaç cm dir?



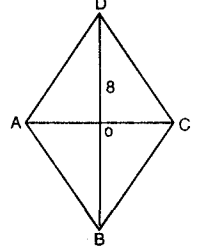
- A) 10 B) 13 C) 15 D) 18 E) 21

7. ACBD dikdörtgeninde $[AE] \perp [EF]$, $|AD| = 6$ br, $|DE| = |BF| = 4$ br ise $|AB|$ kaç br dir?



- A) 7 B) 9 C) 10 D) 12 E) 14

8. ABCD dörtgeninde, $|AD| = |DC|$, $|AB| = |BC| = |AC|$, $|AC| = 12$ cm, $|DO| = 8$ cm ise $|AD|$ kaçtır?

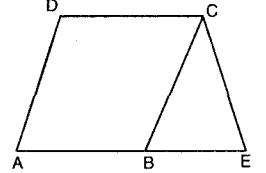


- A) $\frac{\sqrt{3}}{3}$ B) $\frac{3\sqrt{3}}{5}$ C) $\frac{5\sqrt{3}}{9}$

$$D) 5\sqrt{3}$$

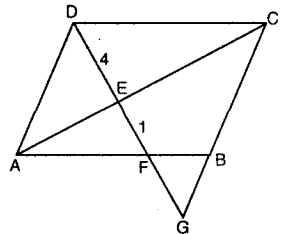
$$E) 9\sqrt{3}$$

9. Şekilde ABCD eşkenar dörtgen, $\triangle BCE$ eşkenar üçgen ve $A(AECD) = 12\sqrt{3}$ br ise $|AE|$ kaç br dir?



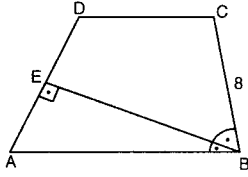
- A) 18 B) 16 C) 14 D) 12 E) 8

10. Şekilde ABCD paralelkenar, D, E, F, G ve C, B, G doğrusaldır. $|DE| = 4$ br ve $|EF| = 1$ br ise $|FG|$ kaç br dir?



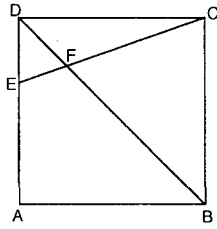
- A) 5 B) 9 C) 12 D) 15 E) 17

11. ABCD dörtgeninde
 $m(\hat{A}BE) = m(\hat{E}BC)$,
 $[BE] \perp [AD]$,
 $[AB] \parallel [DC]$,
 $IAI = IBCI$,
 $IEBI = 6\sqrt{3}$ br
 $IBCI = 8$ br ise **A(ABCD) kaç br² dir?**



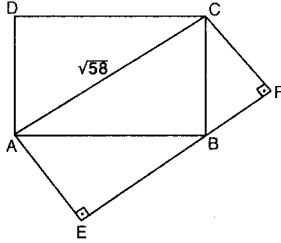
- A) $18\sqrt{3}$ B) $32\sqrt{3}$ C) 32
 D) 36 E) $36\sqrt{3}$

12. Şekilde ABCD kare
 $IAI = 3IEDI$,
 $IEFI = 2$ br ise
A(ABCD) kaç br² dr?



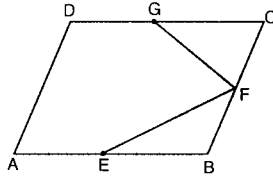
- A) 57,6 B) 48,2 C) 44,4 D) 36,6 E) 31,4

13. Şekilde ABCD dik-
 dörtgen,
 AEFC dik yamuk-
 tur.
 $IAEI = IEBI$,
 $IEFI = 7$ cm ve
 $IACI = \sqrt{58}$ cm ise
**A(ABCD) kaç cm²
 dir?**



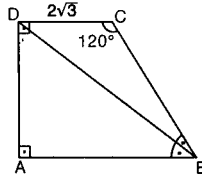
- A) 20 B) 16 C) 15 D) 12 E) 10

14. ABCD paralelkenarında
 $IAI = 20$ br ve
 $IBCI = 10$ br dir.
 F, G ve E noktaları
 orta noktalar ise
 $IEFI^2 + IFGI^2$ kaç br² dir?



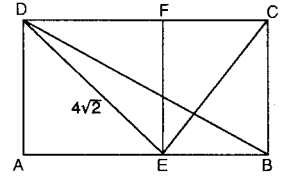
- A) 125 B) 160 C) 190 D) 210 E) 250

15. ABCD dik yamuğunda
 $m(\hat{C}BD) = m(\hat{D}BA)$,
 $m(\hat{C}) = 120^\circ$ ve
 $IDCI = 2\sqrt{3}$ br ise
A(ABCD) kaç br² dir?



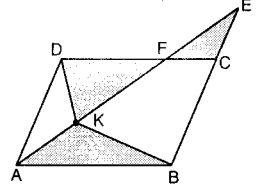
- A) $\frac{\sqrt{3}}{2}$ B) $2\sqrt{3}$ C) $\frac{5\sqrt{3}}{2}$
 D) $\frac{15\sqrt{3}}{2}$ E) $8\sqrt{3}$

16. Şekilde ABCD dik-
 dörtgen AEFD ka-
 redir.
 $IDEI = 4\sqrt{2}$ br ve
 $IECI = 5$ br ise
IDBI kaç br dir?



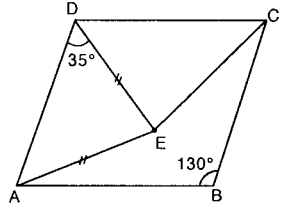
- A) $\sqrt{59}$ B) $\sqrt{61}$ C) $\sqrt{63}$
 D) $\sqrt{65}$ E) $\sqrt{71}$

17. ABCD paralelkenarında
 A, K, F, E doğrusal ve
 B, C, E doğrusaldır.
 $IEFI = IFKI$ ve taralı
 alanlar toplamı 15 br²
 ise **A(ABCD) kaç br²
 dir?**



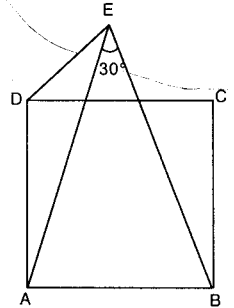
- A) 24 B) 30 C) 35 D) 40 E) 45

18. ABCD eşkenar
 dörtgeninde,
 $m(\hat{ADE}) = 35^\circ$ ve
 $m(\hat{ABC}) = 130^\circ$ ise
 **$m(\hat{DCE})$ kaç dere-
 cedir?**



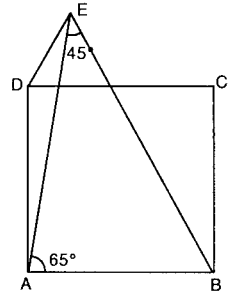
- A) 10 B) 15 C) 30 D) 40 E) 45

19. ABCD kare
 $IAEI = IEBI$ ve
 $m(\hat{AEB}) = 30^\circ$ ise
 $m(\hat{EDC})$ kaç derecedir?



- A) 75 B) 60 C) 45 D) 30 E) 15

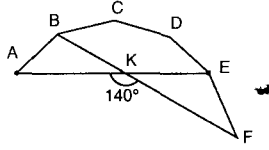
20. ABCD kare,
 $m(\hat{EAB}) = 65^\circ$ ve
 $m(\hat{AEB}) = 45^\circ$ ise
 $m(\hat{EDC})$ kaç derecedir?



- A) 5 B) 10 C) 15 D) 20 E) 30

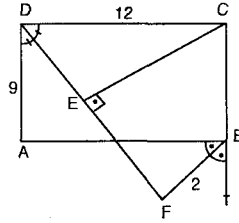
TARAMA - 7

1. A, B, C, D, E, F düzgün bir çokgenin ardışık köşeleridir. $m(\angle AKF) = 140^\circ$ ise bu çokgen kaç kenarlıdır?



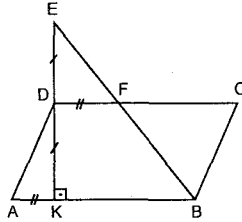
A) 20 B) 18 C) 15 D) 9 E) 6

2. ABCD paralelkenarında [DF] ve [BF] açıortay $[CE] \perp [DF]$, $IAD = 9$ br, $IDC = 12$ br ve $IBFI = 2$ br ise ICEI kaç br dir?



A) 4 B) $2\sqrt{5}$ C) 6 D) $3\sqrt{5}$ E) 8

3. ABCD paralelkenarında $IDFI = IAKI$, $IEDI = IDKI$, $[EK] \perp [AB]$ ve $A(\widehat{EKB}) = 24 \text{ cm}^2$ ise $A(ABCD)$ kaç cm^2 dir?

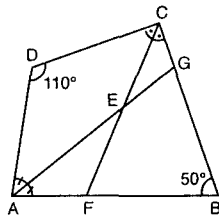


A) 24 B) 30 C) 32 D) 36 E) 40

4. Bir kenar uzunluğu 6 cm olan düzgün bir çokgenin çizilebilmesi için en az kaç bağımsız elemanın daha verilmesi gerekir?

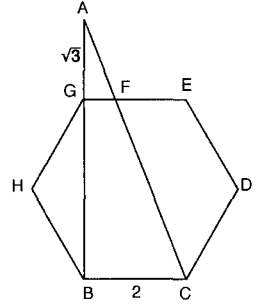
A) 1 B) 4 C) 7 D) 8 E) 11

5. ABCD dörtgeninde [CF] ve [AG] açıortay $m(\widehat{ADC}) = 110^\circ$ ve $m(\widehat{ABG}) = 50^\circ$ ise $m(\widehat{FEG})$ kaç derecedir?



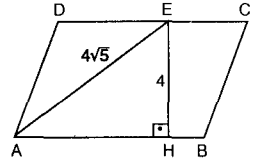
A) 120 B) 130 C) 135 D) 145 E) 150

6. Şekilde GHBCDE düzgün altıgen, A, G, B noktaları doğrusaldır. $IBC = 2$ cm ve $IAGI = \sqrt{3}$ cm ise IFEI kaç cm dir?



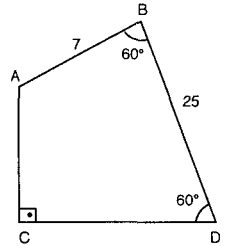
A) $\frac{4}{5}$ B) $\frac{5}{3}$
C) 1 D) $\frac{4}{3}$
E) $\frac{3}{2}$

7. ABCD paralel kenarında, $[EH] \perp [AB]$, $IECI = ICBI$, $IDCI = 2IDA$, $IEHI = 4$ br ve $IAEI = 4\sqrt{5}$ br ise $A(ABCD)$ kaç br^2 dir?



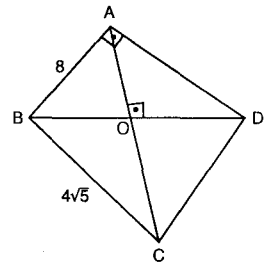
A) 32 B) 40 C) 42 D) 48 E) 52

8. Şekilde $m(\widehat{C}) = 90^\circ$, $m(\widehat{B}) = m(\widehat{D}) = 60^\circ$, $IBDI = 25$ cm, $IABI = 7$ cm ise $ICDI$ kaç cm dir?



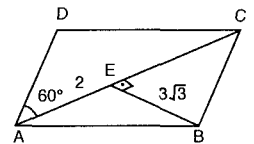
A) 21 B) 19
C) 18 D) 16
E) 14

9. Şekilde ABCD dörtgeninde $[AC] \perp [BD]$, $m(\widehat{BAD}) = 90^\circ$, $\frac{IADI}{IDCI} = \frac{1}{3}$, $IABI = 8$ cm, $IBCI = 4\sqrt{5}$ cm ise $IODI$ kaç cm dir?



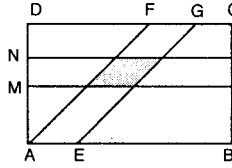
A) $3\sqrt{66}$ B) $\frac{\sqrt{66}}{3}$ C) $\frac{\sqrt{66}}{5}$
D) $\frac{3\sqrt{66}}{17}$ E) $\frac{\sqrt{66}}{33}$

10. ABCD paralelkenar $[AC] \perp [BE]$, $IEBI = 3\sqrt{3}$ cm, $IAEI = 2$ cm, $m(\widehat{DAF}) = 60^\circ$ ise $A(ABCD)$ kaç cm^2 dir?



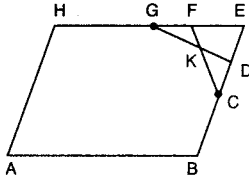
A) $8\sqrt{3}$ B) $10\sqrt{3}$ C) $15\sqrt{3}$
D) 45 E) 60

11. Şekilde ABCD ve MNKL dikdörtgendir.
 $[FG] = \frac{|DC|}{5}$,
 $IMNI = \frac{|AD|}{4}$ ise
 $[AF] \parallel [EG]$
 $\frac{T.A}{A(ABCD)}$ nedir?



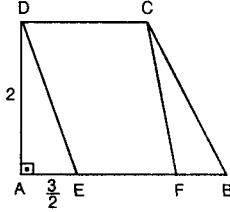
- A) $\frac{1}{9}$ B) $\frac{1}{10}$ C) $\frac{1}{12}$ D) $\frac{1}{15}$ E) $\frac{1}{20}$

12. Şekildeki ABEH eşkenar dörtgeninde
 $IHG| = |GE| = |EC|$,
 $|CD| = |DE| = |EF|$
 $\Delta(GFK) = 4 \text{ cm}^2$ ise
 $A(ABEH)$ kaç cm^2 dir?



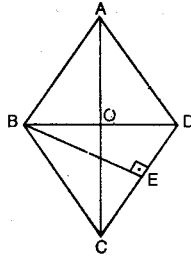
- A) 172 B) 178 C) 182 D) 188 E) 192

13. Şekilde ABCD dik yamuk, EFCD eşkenar dörtgendir.
 $m(\hat{A}) = 90^\circ$,
 $|AE| = \frac{3}{2} \text{ br}$
 $|AD| = 2 \text{ br}$ ve
 $|FB| = |FC|$ ise
 $|BC|$ kaç br dir?



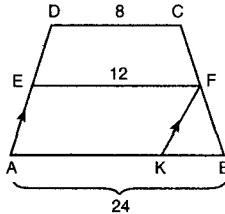
- A) $\sqrt{5}$ B) $2\sqrt{5}$ C) $4\sqrt{5}$ D) 7 E) 11

14. Şekilde ABCD eşkenar dörtgen,
 $[BE] \perp [CD]$,
 $|BD| = 4 \text{ cm}$ ve
 $|AC| = 3 \text{ cm}$ ise
 $|BE|$ kaç cm dir?



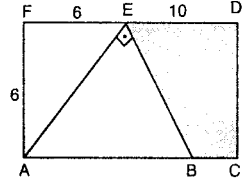
- A) $\frac{12}{5}$ B) $\frac{3}{2}$ C) 1 D) $\frac{2}{3}$ E) $\frac{2}{7}$

15. ABCD yamuğunda
 $[CD] \parallel [AB] \parallel [EF]$
 $[FK] \parallel [AD]$,
 $|DC| = 8 \text{ cm}$,
 $|EF| = 12 \text{ cm}$,
 $|AB| = 24 \text{ cm}$ ve
 $|AD| = 40 \text{ cm}$ ise
 $|FK|$ kaç cm dir?



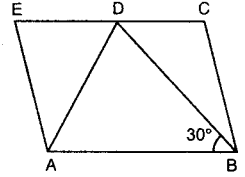
- A) 33 B) 32 C) 30 D) 28 E) 26

16. ACDF dikdörtgeninde
 $|AF| = |FE| = 6 \text{ cm}$,
 $[AE] \perp [BE]$ ve
 $|ED| = 10 \text{ cm}$ ise taralı alan kaç cm^2 dir?



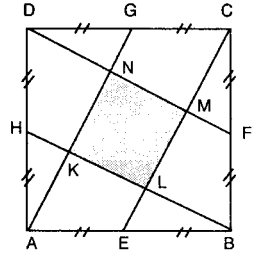
- A) 34 B) 40 C) 42 D) 44 E) 52

17. Şekildeki ABCD ikizkenar yamuk,
 $m(\hat{DBA}) = 30^\circ$,
 $|DB| = |AB|$ ise $m(\hat{EDA})$ kaç derecedir?



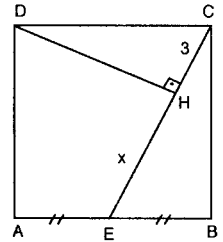
- A) 60 B) 75 C) 80 D) 85 E) 90

18. ABCD kare, E, F, G, H kenarların orta noktaları ise
 $\frac{A(ABCD)}{A(KLMN)}$ kaçtır?



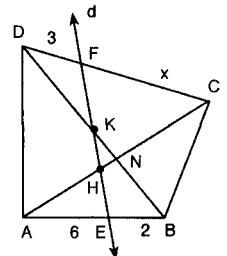
- A) 12 B) 10 C) 8 D) 5 E) 4

19. ABCD kare,
 $[DH] \perp [EC]$,
 $|AE| = |EB|$ ve
 $|HC| = 3 \text{ br}$ ise
 $|EH| = x$ kaç br dir?



- A) 4 B) $\frac{9}{2}$ C) 6 D) $\frac{15}{2}$ E) 9

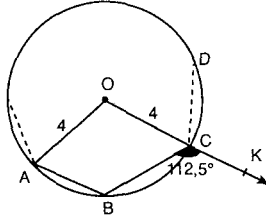
20. ABCD dörtgeninde
 $|ANI| = |INCI|$,
 $|KBI| = |KDI|$,
 $|AE| = 6 \text{ br}$,
 $|EB| = 2 \text{ br}$ ve
 $|DF| = 3 \text{ br}$ ise
 $|FC| = x$ kaç br'dir?



- A) 5 B) 6 C) 8 D) 9 E) 12

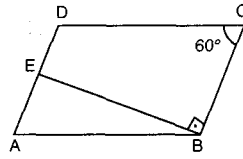
TARAMA - 8

1. Şekilde O merkezli çember içine (....ABCD....) düzgün çokgen verilmiştir. $IOAI = IOCI = 4$ br ve $m(\hat{BCK}) = 112,5^\circ$ ise **düzgün çokgenin köşegen sayısı kaçtır?**



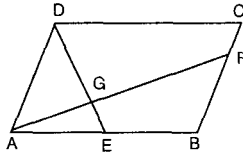
A) 10 B) 15 C) 18 D) 20 E) 24

2. ABCD paralelkenarında, $[EB] \perp [BC]$, $m(\hat{C}) = 60^\circ$, $IAI = 12$ br ve $\angle(ABCD) = 50$ br ise **IDEI kaç br dir?**



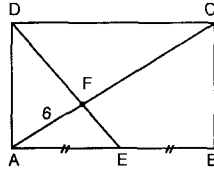
A) 9 B) 8 C) 7 D) 6 E) 5

3. ABCD paralelkenarında $IBFI = 2IFCI$, $3IEBI = 2IAEI$ ve $IDEI = 14$ br ise **IDGI kaç br dir?**



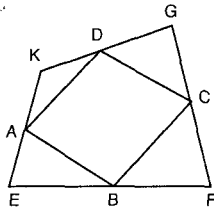
A) 6 B) 7 C) 8 D) 9 E) 10

4. ABCD dikdörtgeninde $IAEI = IEBI$, $IAFI = 6$ cm ise **IFCI kaç cm dir?**



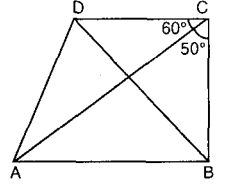
A) 6 B) 8 C) 9 D) 12 E) 18

5. Şekildeki EFGK dörtgeninde A, B, C, D kenarların orta noktalarıdır. $A(EFGK) = 42$ br² ise **A(ABCD) kaç br² dir?**



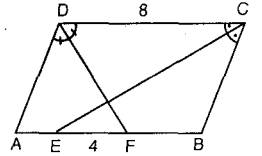
A) 18 B) 20 C) 21 D) 23 E) 28

6. ABCD dörtgeninde $m(\hat{ACB}) = 50^\circ$, $m(\hat{ACD}) = 60^\circ$, $m(\hat{DAB}) = 70^\circ$ ise **m(BDA) kaç derecedir?**



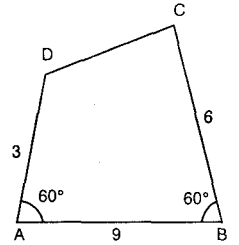
A) 60 B) 55 C) 50 D) 45 E) 40

7. ABCD paralelkenarında $IEFI = 4$ br, $IDCI = 8$ br ve $[DF]$ ile $[EC]$ açıortaydır. **IBCI IAEI oranı kaçtır?**



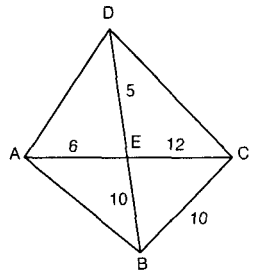
A) 1 B) $\frac{3}{2}$ C) 2 D) 3 E) $\frac{7}{2}$

8. Şekildeki ABCD dörtgeninde $m(\hat{A}) = m(\hat{B}) = 60^\circ$, $IAI = 3$ br, $IAI = 9$ br ve $IBCI = 6$ br ise **IDCI kaç br dir?**



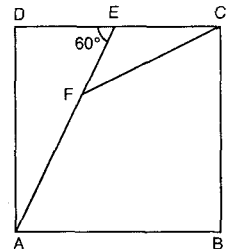
A) 3 B) $3\sqrt{3}$ C) 4 D) $4\sqrt{3}$ E) 5

9. ABCD dörtgeninde $IAEI = 6$ cm, $IECI = 12$ cm, $IEDI = 5$ cm ve $IEBI = IBCI = 10$ cm ise **A(ABCD) kaç cm² dir?**



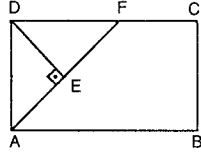
A) 76 B) 82 C) 90 D) 104 E) 108

10. Şekildeki ABCD karesinde $IAFI = IABI$ ve $m(\hat{DEA}) = 60^\circ$ ise **m(ECF) kaç derecedir?**



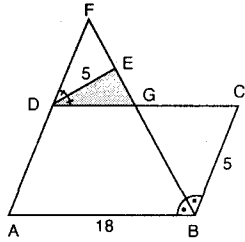
A) 10 B) 15 C) 30 D) 45 E) 60

11. Şekildeki ABCD dikdörtgeninde
 $[DE] \perp [AF]$,
 $9|AE| = 4|EF| = 36$ cm
ve $A(ABCD) = 130$ cm² ise
 $|FC|$ kaç cm dir?



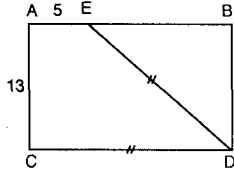
- A) $\frac{\sqrt{3}}{12}$ B) $\sqrt{13}$ C) $2\sqrt{13}$
D) $3\sqrt{13}$ E) $4\sqrt{13}$

12. ABCD paralelkenar,
 $[BF]$ ve $[DE]$ açıortay
 $|AB| = 18$ cm,
 $|BC| = 5$ cm ve
 $|DE| = 5$ cm ise
 $A(EDG)$ kaç cm² dir?



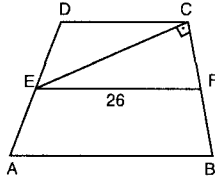
- A) 15 B) 24 C) 30 D) 45 E) 60

13. ABCD dikdörtgen
 $|ED| = |CD|$
 $|AE| = 5$ br
 $|AC| = 13$ br ise
 $|EB|$ kaç br dir?



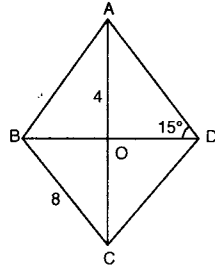
- A) 12,2 B) 14,2 C) 14,4
D) 25,6 E) 32,4

14. ABCD yamuğunda
 $[DC] \parallel [EF] \parallel [AB]$ dir.
 $m(\widehat{ECF}) = 90^\circ$,
 $[EF]$ orta taban,
 $|CB| = 20$ cm ve
 $|EF| = 26$ cm ise
 $A(ABCD)$ kaç cm² dir?



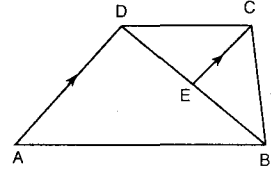
- A) 320 B) 380 C) 400 D) 480 E) 520

15. ABCD deltoitinde
 $|AD| = |DC|$,
 $|AB| = |BC|$,
 $|AO| = 4$ cm
 $|BC| = 8$ cm ve
 $m(\widehat{ADB}) = 15^\circ$ ise
 $A(ABCD)$ kaç cm² dir?



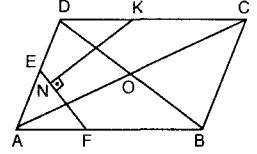
- A) 8 B) $8\sqrt{3}$ C) $8 + 8\sqrt{3}$
D) $32 + 32\sqrt{3}$ E) $32 + 48\sqrt{3}$

16. ABCD yamuğunda,
 $[DC] \parallel [AB]$,
 $[AD] \parallel [EC]$,
 $A(\widehat{DEC}) = 2$ br² ve
 $A(\widehat{BEC}) = 4$ br² ise
 $A(ABCD)$ kaç br² dir?



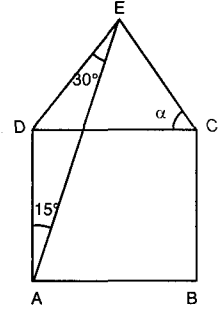
- A) 14 B) 16 C) 18 D) 20 E) 24

17. ABCD paralelkenarında,
E, F, K orta noktalarıdır.
 $[KN] \perp [EF]$,
 $|OB| = 3$ br ve
 $|KN| = 4$ br ise
 $A(ABCD)$ kaç br² dir?



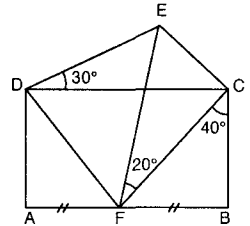
- A) 24 B) 20 C) 18 D) 16 E) 12

18. ABCD kare,
 $m(\widehat{DAE}) = 15^\circ$ ve
 $m(\widehat{DEA}) = 30^\circ$ ise
 $m(\widehat{ECD}) = \alpha$ kaç
derecedir?



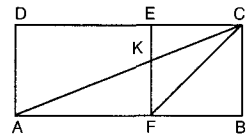
- A) 15 B) 30
C) 45 D) 60
E) 75

19. ABCD dikdörtgen,
 $|AF| = |FB|$,
 $m(\widehat{EDC}) = 30^\circ$,
 $m(\widehat{EFC}) = 20^\circ$ ve
 $m(\widehat{BCF}) = 40^\circ$ ise
 $m(\widehat{FEC})$ kaç derecedir?



- A) 10 B) 15 C) 20 D) 25 E) 30

20. ABCD dikdörtgen,
EFBC kare,
 $|AK| = 2|CF|$ ise
 $m(\widehat{ACF})$ kaç derecedir?



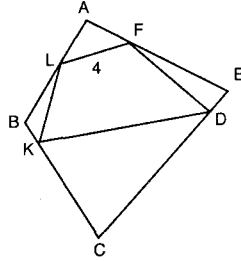
- A) 15 B) 20 C) 30 D) 40 E) 45

TARAMA - 9

1. $(n + 3)$ kenarlı bir düzgün çokgenin $(n^2 - 2)$ tane köşegeni varsa bu düzgün çokgenin bir köşesinden kaç tane köşegen geçer?

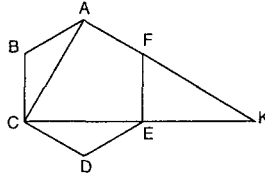
A) 3 B) 4 C) 5 D) 6 E) 7

2. $|AL| = \frac{|AB|}{4}$,
 $3|AF| = |FE|$
 $4|BK| = |BC|$
 $3|ED| = |DC|$
 $|LF| = 4$ cm ise
 $|KD|$ kaç cm dir?



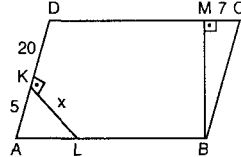
A) 18 B) 15 C) 12 D) 9 E) 6

3. Şekildeki ABCDEF bir kenarı 4 cm olan bir düzgün altıgendir. C, E, K doğrusal olduğuna göre **$\widehat{A(ACK)}$ kaç cm^2 dir?**



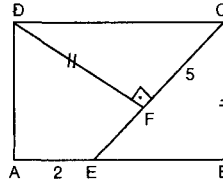
A) 48 B) 36 C) $24\sqrt{3}$
D) 24 E) $12\sqrt{3}$

4. ABCD paralel kenarında,
 $[LK] \perp [AD]$,
 $[BM] \perp [DC]$,
 $|KD| = 20$ br,
 $|AK| = 5$ br,
 $|MC| = 7$ br ise **$|KL| = x$ kaç br dir?**



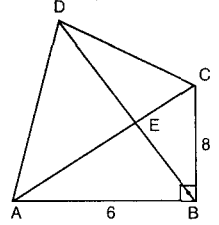
A) $\frac{45}{21}$ B) $\frac{120}{7}$ C) $\frac{115}{4}$
D) $\frac{48}{13}$ E) $\frac{49}{5}$

5. ABCD dikdörtgeninde
 $|DF| = |BC|$
 $[DF] \perp [EC]$
 $|AE| = 2$ cm
 $|CF| = 5$ cm ise
 $A(ABCD)$ kaç cm^2 dir?



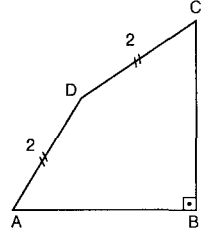
A) 21 B) 27 C) $14\sqrt{3}$
D) $14\sqrt{6}$ E) $15\sqrt{6}$

6. ABCD dörtgeninde
 $[AB] \perp [BC]$ dir.
 $|AB| = 6$ br,
 $|BC| = 8$ br,
 $2|BE| = 3|DE|$ ise
 $A(ABCD)$ kaç br^2 dir?



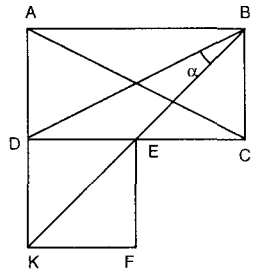
A) 30 B) 34 C) 40 D) 48 E) 60

7. Şekilde $[AB] \perp [BC]$,
 $m(\widehat{BAD}) = 60^\circ$,
 $m(\widehat{ADC}) = 150^\circ$ ve
 $|AD| = |DC| = 2$ br ise
 $A(ABCD)$ kaç br^2 dir?



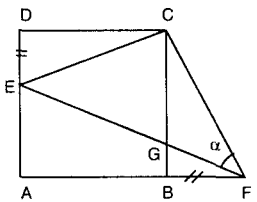
A) $\sqrt{3}$ B) $\sqrt{3} - 1$ C) $\sqrt{3} + 3$
D) 2 E) 4

8. Şekilde ABCD dikdörtgen, DEFK karedir. K, E, B doğrusal noktalar, $[AC]$ ve $[DB]$ köşegendir. $\frac{|DC|}{|AD|} = \sqrt{3}$ ise
 $m(\widehat{DBE}) = \alpha$ kaç derecedir?



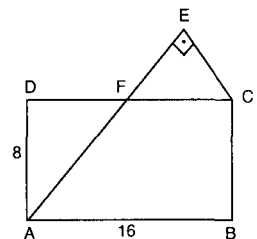
A) 10 B) 15 C) 20 D) 22,5 E) 30

9. ABCD kare ve
 $|DE| = |BF|$ ise
 $m(\widehat{EFC}) = \alpha$ kaç derecedir?



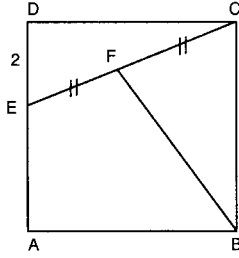
A) 15 B) 30 C) 45 D) 60 E) 75

10. Şekilde ABCD dikdörtgen,
 $[AE] \perp [EC]$,
 $|AB| = |EA| = 16$ cm,
 $|AD| = 8$ cm ise
 $|FC| - |DF|$ farkı kaç cm dir?



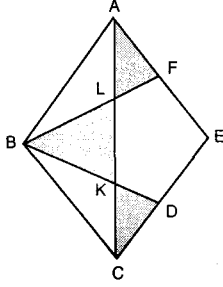
A) 2 B) 3 C) 4 D) 5 E) 6

11. ABCD karesinde
IEFI = IFCL,
IDEI = 2 cm,
IECI = 4 cm ise
 $\widehat{A(FCB)}$ kaç cm^2 dir?



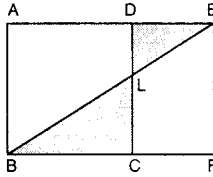
- A) $\sqrt{3}$ B) 3 C) $2\sqrt{3}$
D) 6 E) $6\sqrt{3}$

12. Şekilde BKL üçgeni eşkenar üçgen olup bir kenar uzunluğu $6\sqrt{3}$ br olan ABCE eşkenar dörtgeninde F ve D orta noktalarıdır. Taralı alan kaç cm^2 dir?



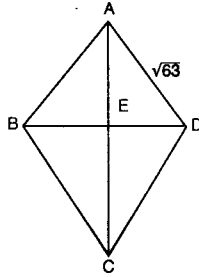
- A) $9\sqrt{3}$ B) $18\sqrt{3}$ C) $27\sqrt{3}$
D) $36\sqrt{3}$ E) $64\sqrt{3}$

13. Şekilde ABCD kare, ABFE dikdörtgendir.
 $\widehat{A(BCL)} = 25 cm^2$,
 $\widehat{A(DLE)} = 9 cm^2$ ise
 $\widehat{A(ABCD)}$ kaç cm^2 dir?



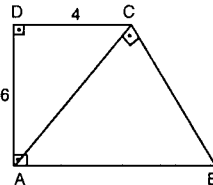
- A) 80 B) 90 C) 100 D) 112 E) 128

14. ABCD deltoitinde;
ICEI = 2IAEI olup
BCD üçgeni eşkenar üçgendir.
 $IDA I = \sqrt{63}$ cm ise
 $\widehat{A(ABCD)}$ kaç cm^2 dir?



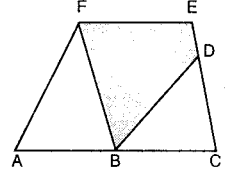
- A) $48\sqrt{3}$ B) $52\sqrt{3}$ C) $54\sqrt{3}$
D) $60\sqrt{3}$ E) $64\sqrt{3}$

15. Şekildeki ABCD dikya-
muğunda;
 $m(\widehat{A}) = m(\widehat{D}) = m(\widehat{ACB}) = 90^\circ$
dir. IDCI = 4 cm ve
IADI = 6 cm ise
IBCI kaç cm dir?



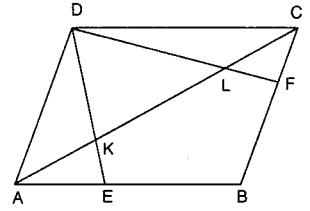
- A) $\sqrt{91}$ B) $\sqrt{93}$ C) $\sqrt{97}$
D) $\sqrt{103}$ E) $\sqrt{117}$

16. Şekildeki ACEF
dörtgeninde
IDCI = 4IEDI,
BCEF paralel kenar,
[BD] // [AF] dir.
 $\frac{A(BDEF)}{A(ACEF)}$ oranı kaçtır?



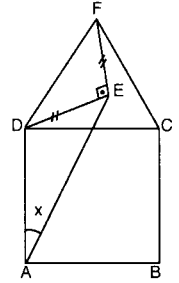
- A) $\frac{24}{65}$ C) $\frac{21}{53}$ C) $\frac{17}{42}$ D) $\frac{8}{9}$ E) $\frac{1}{3}$

17. ABCD dörtgeni
paralelkenardır. E
ve F noktaları
[AB] ve [BC] nin
orta noktaları ise
 $\frac{A(\triangle ADL)}{A(\triangle EBFLK)}$ oranı
nedir?



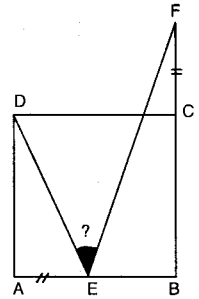
- A) 1 B) $\frac{1}{2}$ C) $\frac{1}{3}$ D) $\frac{1}{4}$ E) 2

18. ABCD kare,
DFC eşkenar üçgen,
[FE] ⊥ [ED] ve
IFEI = IEDI ise
 $m(\widehat{DAE}) = x$ kaç derecedir?



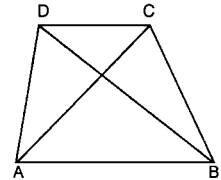
- A) 15 B) 22,5 C) 30
D) 37,5 E) 45

19. ABCD kare ve
ICFI = IAEI ise
 $m(\widehat{DEF})$ kaç derecedir?



- A) 15 B) 22,5
C) 30 D) 37,5
E) 45

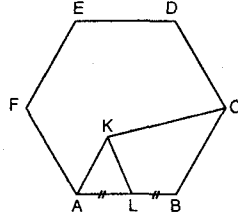
20. ABCD yamuğunda
IACI = 9 br,
IBDI = 12 br ve
IABI + ICDI = 15 br ise
 $\widehat{A(ABCD)}$ kaç br² dir?



- A) 27 B) 48 C) 54 D) 96 E) 108

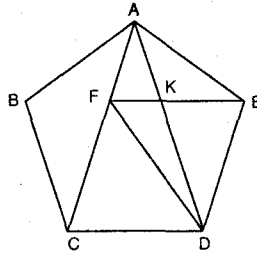
TARAMA - 10

1. ABCDEF düzgün altıgeninde
 $IALI = ILBI = 2$ br ve
 AKL eşkenar üçgen ise
 IKCI kaç br dir?



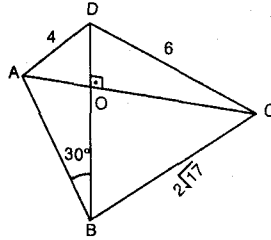
A) 3 B) $2\sqrt{3}$ C) $2\sqrt{5}$ D) $2\sqrt{6}$ E) $2\sqrt{7}$

2. Şekildeki ABCDE düzgün beşgen ve
 $[DF] \parallel [AE]$ dir. Verilenlere göre $m(\widehat{AFE})$ kaç derecedir?



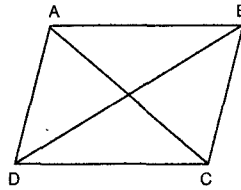
A) 48 B) 54
 C) 58 D) 60
 E) 72

3. ABCD dörtgeninde,
 $m(\widehat{ABD}) = 30^\circ$
 $[AC] \perp [BD]$,
 $IADI = 4$ br
 $IDCI = 6$ br,
 $IBCI = 2\sqrt{17}$ br ise
 $IOAI$ kaç br dir?



A) $2\sqrt{3}$ B) $\sqrt{10}$ C) $2\sqrt{2}$ D) $\sqrt{6}$ E) 2

4. ABCD eşkenar dörtgen,
 $IACI = 10$ br
 $IBDI = 24$ br ise
 B den [CD] ye indirilen yükseklik kaç br dir?

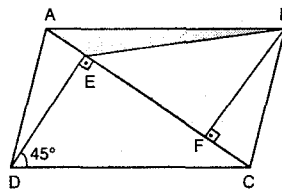


A) $\frac{240}{13}$ B) $\frac{180}{13}$ C) $\frac{160}{13}$ D) $\frac{120}{13}$ E) $\frac{60}{13}$

5. Şekilde ABCD paralelkenardır.
 $[BF] \perp [AC]$,

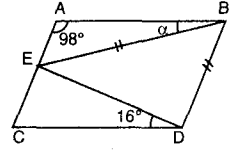
$m(\widehat{EDC}) = 45^\circ$,
 $A(ABCD) = 120 \text{ cm}^2$
 $IACI = 15$ cm ise

$A(\triangle AEB)$ kaç cm^2 dir?



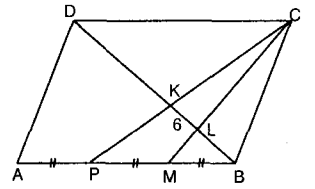
A) 20 B) 26 C) 28 D) 36 E) 42

6. ABCD paralelkenar
 $IBEI = IDI$
 $m(\widehat{CAB}) = 98^\circ$
 $m(\widehat{CDE}) = 16^\circ$ ise
 $m(\widehat{ABE}) = \alpha$ kaç derecedir?



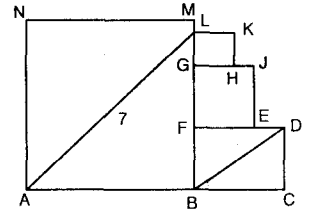
A) 66 B) 56 C) 46 D) 38 E) 36

7. Şekilde ABCD paralelkenarında
 $IAP I = IPM I = IMB I$
 ve $IKLI = 6$ br ise
 IDBI kaç br dir?



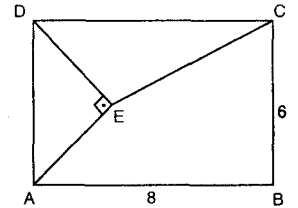
A) 25 B) 30 C) 35 D) 40 E) 45

8. (ABMN) dikdörtgen (GHLK),
 (GFEJ) ve
 (BCDF) karedirler.
 $IDCI = 2IEJI = 4IKHI$
 ve $[AL] \parallel [BD]$,
 $[AL] = 7$ cm ise
 IDBI kaç cm'dir?



A) 2 B) 3 C) 4 D) 5 E) 6

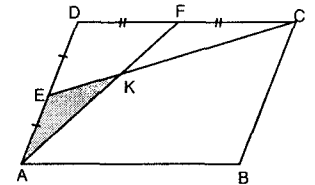
9. ABCD dikdörtgen,
 ADE ikizkenar dik üçgen,
 $IABI = 8$ ve
 $IBCI = 6$ cm dir.
 IECI kaç cm dir?



A) $2\sqrt{7}$ B) $\sqrt{34}$ C) $2\sqrt{10}$
 D) $\sqrt{35}$ E) $\sqrt{37}$

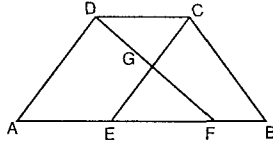
10. ABCD paralelkenarında,
 E ve F orta noktalardır.

$\triangle EAK$ Alan $\triangle EAK = 2 \text{ br}^2$
 ise $\triangle FKC$ Alan $\triangle FKC$ kaç br^2 dir?



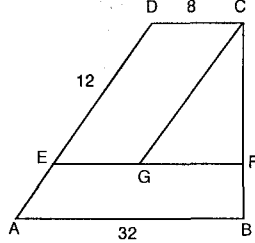
A) $\frac{3}{2}$ B) 2 C) 3 D) 4 E) 6

11. ADCE ve BCDF paralelkenardır.
 $3IDCI = IEFI$ ve
 $A(BFGC) = 14 \text{ cm}^2$
 ise **ABCD yamuğunun alanı kaç cm^2 dir?**



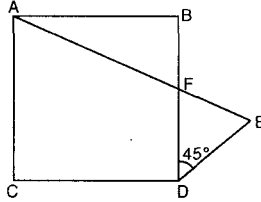
A) 58 B) 54 C) 48 D) 42 E) 36

12. Şekilde
 $[DC] \parallel [EF] \parallel [AB]$
 $[CG] \parallel [DA]$,
 $IDCI = 8 \text{ cm}$,
 $IDEI = 12 \text{ cm}$,
 $IABI = 32 \text{ cm}$ ve
 $A(EGCD) = A(CG F)$
 ise **IEAI kaç cm^2 dir?**



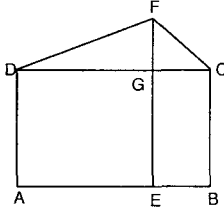
A) 2 B) 4 C) 5 D) 6 E) 7

13. ABCD kare,
 $IAFI = 3IEFI$,
 $IAEI = 20 \text{ br}$,
 $m(\widehat{FDE}) = 45^\circ$ ise
karenin alanı kaç br^2 dir?



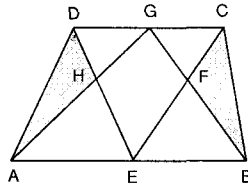
A) 100 B) 120 C) 160 D) 180 E) 200

14. AEGD bir kare,
 ABCD bir dikdörtgen,
 $m(\widehat{FDG}) = 30^\circ$,
 $IFGI = IGCI$ ise
IBCI oranı kaçtır?



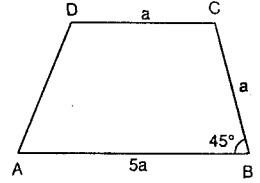
A) $\sqrt{3}$ B) $\frac{\sqrt{5}}{2}$ C) 2
 D) $\frac{\sqrt{6}}{3}$ E) $\frac{\sqrt{6}}{2}$

15. Şekilde
 $[DC] \parallel [AB]$ ve
 $A(HEFG) = 32\sqrt{3} \text{ br}^2$
 ise **taralı alanlar toplamı kaç $\sqrt{3} \text{ br}^2$ dir?**



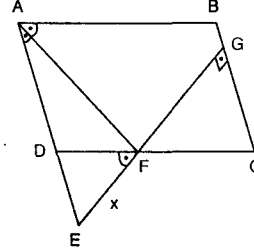
A) $32\sqrt{3}$ B) 32 C) $24\sqrt{3}$
 D) 24 E) $16\sqrt{3}$

16. Şekildeki ABCD yamuğunda
 $IDCI = IBCI = a \text{ br}$
 $IABI = 5a \text{ br}$,
 $m(\widehat{ABC}) = 45^\circ$ ve
 $A(ABCD) = 54\sqrt{2} \text{ br}^2$
 ise **IDCI uzunluğu kaç br dir?**



A) $8\sqrt{2}$ B) 6 C) $3\sqrt{2}$ D) 3 E) 2

17.

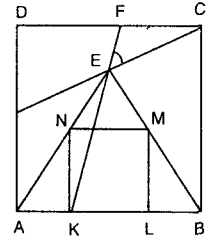


Şekilde ABCD paralelkenar, $[EG] \perp [BC]$

$m(\widehat{DAF}) = m(\widehat{FAB}) = m(\widehat{DFE})$, $IBCI = 12 \text{ cm}$ ise
IEFI = x kaç cm dir?

A) 6 B) $6\sqrt{3}$ C) 3 D) $3\sqrt{3}$ E) 12

18. ABCD ve KLMN kare ve
 AEB eşkenar üçgen ise
 $m(\widehat{CEF})$ kaç derecedir?

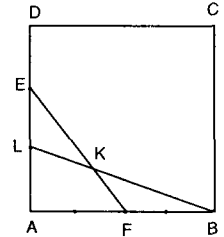


A) 30 B) 36 C) 45 D) 60 E) 72

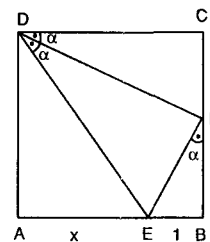
19. ABCD karesinde $[AD]$; 3
 $[AB]$; 4 eşit parçaya
 bölünmüştür.

Δ
 $\text{Alan}(\triangle ELK) = S_1$,
 Δ
 $\text{Alan}(\triangle KFB) = S_2$ ise
 $\frac{S_1}{S_2}$ oranı kaçtır?

A) $\frac{7}{3}$ B) $\frac{4}{3}$ C) 1 D) $\frac{3}{4}$ E) $\frac{5}{8}$



20.



ABCD kare, $m(\widehat{CDF}) = m(\widehat{FDE}) = m(\widehat{EFB}) = \alpha$
 ve $IBEI = 1 \text{ br}$ ise **IAEI = x kaç br dir?**

A) 3 B) 4 C) $\frac{9}{2}$ D) 6 E) $\frac{15}{2}$

TARAMA - 11

1. İç açılarının ölçüleri toplamı dış açılarının ölçüleri toplamının 5 katı olan düzgün konveks çokgenin çevrel çemberinin yarıçapı 6 cm ise **çokgenin alanı kaç cm^2 dir?**

A) 72 B) 90 C) 108 D) 128 E) 144

2. ABCD paralelkenarında

$$m(\hat{A}) = 124^\circ,$$

$$m(\hat{DCE}) = m(\hat{KBD}) \text{ ise}$$

$m(\hat{CEK})$ kaç derecedir?

A) 54 B) 56 C) 58 D) 60 E) 62

3. ABCD paralelkenarında

D, C, E ve A, F, E noktaları doğrusaldır.

$$A(\hat{BFE}) = 8 \text{ br}^2 \text{ ise } A(\hat{DCF}) \text{ kaç } \text{br}^2 \text{ dir?}$$

A) 6 B) 7 C) 8 D) 9 E) 10

4. ABCD dikdörtgeninde

$$m(\hat{E}) = m(\hat{F}) = 90^\circ,$$

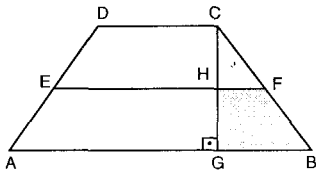
$$|BC| = 6 \text{ cm ve}$$

$$|AB| = 13 \text{ cm ise}$$

|IEFI| kaç cm dir?

A) 8 B) 7 C) 6 D) 5 E) 4

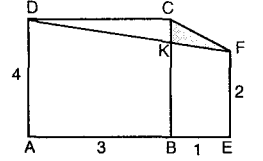
- 5.



Şekilde $[DC] \parallel [EF] \parallel [AB]$, $|IEA| = |IED|$, $|ADI| = |BCI|$, $|AB| = 3|DC|$ ve taralı alan 9 br^2 ise **$A(ABCD)$ kaç br^2 dir?**

A) 48 B) 44 C) 40 D) 36 E) 32

6. Şekilde ABCD dikdörtgen, A, B, E doğrusal $[FE] \perp [AE]$ $|AB| = 3 \text{ cm}$, $|AD| = 4 \text{ cm}$, $|IEFI| = 2 \text{ cm}$ ve $|IBEI| = 1 \text{ cm}$ ise **taralı alan kaç cm^2 dir?**



A) $\frac{1}{4}$ B) $\frac{1}{2}$ C) $\frac{3}{4}$ D) 1 E) $\frac{3}{2}$

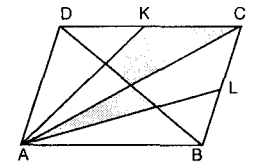
7. ABCD eşkenar dörtgeninde

K ve L orta noktalarıdır.

Taralı alanlar toplamı 6 br^2 ve $|BDI| = 6 \text{ br}$ ise

|ACI| kaç br dir?

A) 12 B) 11 C) 10 D) 9 E) 8



8. ABCD paralelkenarında

$$m(\hat{C}) = 30^\circ,$$

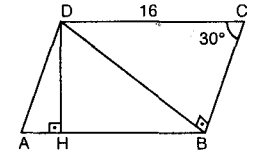
$$m(\hat{DBC}) = 90^\circ,$$

$$[DH] \perp [AB] \text{ ve}$$

$$|DCI| = 16 \text{ cm ise}$$

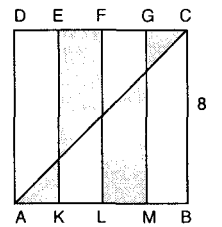
|DHI| kaç cm dir?

A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $3\sqrt{3}$ D) $4\sqrt{3}$ E) $5\sqrt{3}$



9. ABCD karesinde |DCI| ve |ABI| uzunluğu 4'er eşit parçaya bölünmüştür.

$|BCI| = 8 \text{ cm}$ ise **taralı bölgelerin alanları toplamı kaç cm^2 dir?**



A) 20 B) 24 C) 30 D) 32 E) 36

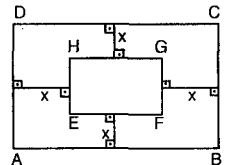
10. İç içe verilen iki dikdörtgende

$$|AB| = 12 \text{ cm},$$

$$|BCI| = 4 \text{ cm ve}$$

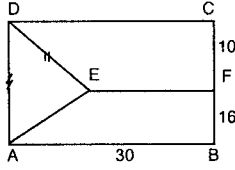
$$A(EFGH) = 20 \text{ cm}^2 \text{ ise}$$

şekildeki x uzunluğu kaç cm'dir?



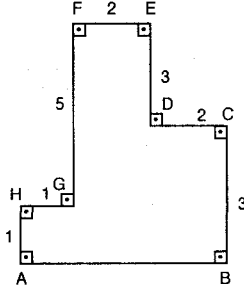
A) 1 B) 1,2 C) 1,6 D) 2 E) 2,2

11. ABCD dikdörtgeninde
 $IDEI = IDAI$,
 $IABI = 30$ cm,
 $IBFI = 16$ cm,
 $ICFI = 10$ cm ve
 $[EF] \perp [BC]$ ise
IEFI kaç cm dir?



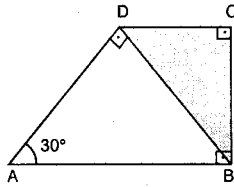
A) 5 B) 6 C) 7 D) 8 E) 10

12. Şekilde
 $IAHI = IHGI = 1$ cm
 $IGFI = 5$ cm,
 $IFEI = IDC I = 2$ cm
 $IEDI = IBCI = 3$ cm ise
kapalı şeklin tüm alanı kaç cm^2 dir?



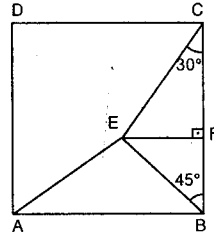
A) 16 B) 17 C) 18 D) 19 E) 20

13. ABCD dik yamuğunda
 $m(\hat{ADB}) = 90^\circ$,
 $[AB] \perp [BC]$,
 $[DC] \perp [BC]$,
 $m(\hat{A}) = 30^\circ$ ve
 $IADI = 12$ cm ise **taralı alan kaç cm^2 dir?**



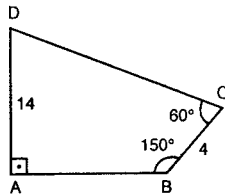
A) $8\sqrt{3}$ B) $7\sqrt{3}$ C) $6\sqrt{3}$
D) $9\sqrt{3}$ E) $10\sqrt{3}$

14. ABCD karesinin çevresi
 $16 + 16\sqrt{3}$ cm,
 $[EF] \perp [BC]$
 $m(\hat{ECF}) = 30^\circ$ ve
 $m(\hat{EBC}) = 45^\circ$ ise
 $A(\hat{AEB})$ kaç cm^2 dir?



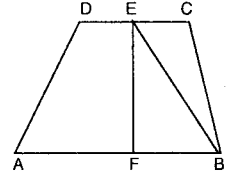
A) $8 + \sqrt{3}$ B) $8 + \sqrt{3}$ C) $8 + 6\sqrt{3}$
D) $8 + 8\sqrt{3}$ E) $8 + 10\sqrt{3}$

15. ABCD dörtgeninde
 $m(\hat{B}) = 150^\circ$,
 $m(\hat{C}) = 60^\circ$,
 $m(\hat{A}) = 90^\circ$,
 $IBCI = 4$ cm ve
 $IADI = 14$ cm ise **IDCI kaç cm dir?**



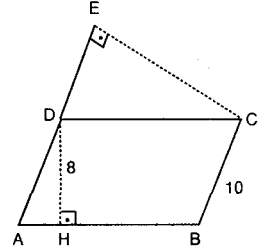
A) 24 B) 18 C) 16 D) 14 E) 12

16. ABCD yamuğunda
 $[DC] \parallel [AB]$,
 $IABI = 2IDCI$,
 $E \in [DC]$,
 $IABI = 3IFBI$ ve
 $A(\hat{EFB}) = 8$ br² ise
 $A(ABCD)$ kaç br² dir?



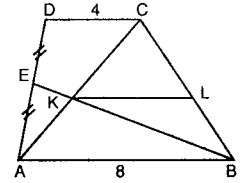
A) 12 B) 18 C) 24 D) 36 E) 48

17. ABCD paralelkenarında A, D, E doğru-
sal,
 $m(\hat{E}) = 90^\circ$,
 $[DH] \perp [AB]$,
 $[AB] = 30$ br
 $IDHI = 8$ br,
 $IBCI = 10$ br ise
IECI kaç br dir?



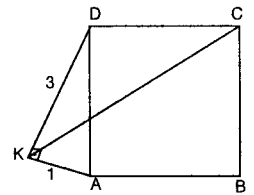
A) 23 B) 24 C) 25 D) 26 E) 28

18. ABCD yamuk
 $[AB] \parallel [KL] \parallel [DC]$
 $IAEI = IEDI$,
 $IABI = 8$ br ve
 $IDCI = 4$ br ise
IKLI kaç br dir?



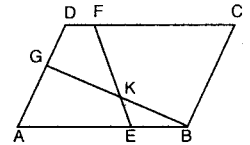
A) $\frac{24}{5}$ B) $\frac{22}{5}$ C) $\frac{21}{5}$ D) 4 E) 2

19. ABCD kare,
AKD dik üçgen,
 $IKDI = 3$ br ve
 $IKAI = 1$ br ise
IKCI kaç br dir?



A) 4 B) $2\sqrt{5}$ C) 5 D) $3\sqrt{6}$ E) 9

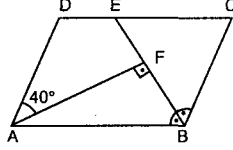
20. ABCD paralelkenar,
 $IAEI = 2IEBI$,
 $IFCI = 3IDFI$
 $IGAI = 4IGDI$ ise
 $\frac{IEKI}{IKFI}$ oranı kaçtır?



A) $\frac{2}{5}$ B) $\frac{2}{3}$ C) $\frac{3}{5}$ D) $\frac{3}{4}$ E) 1

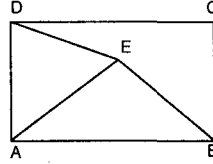
TARAMA - 12

1. ABCD paralelkenarında
[BE] açıortay,
[AF] $\perp$ [EB] ve
 $m(\widehat{DAF}) = 40^\circ$ ise
 $m(\widehat{ADE})$ kaç derecedir?



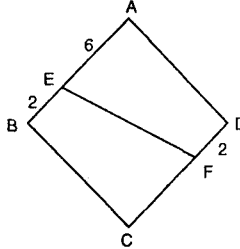
A) 80 B) 85 C) 90 D) 100 E) 105

2. ABCD dikdörtgeninde,
IADI = IDEI,
IAEI = IABI ve
 $m(\widehat{DEB}) = 120^\circ$ ise
 $m(\widehat{CBE})$ kaç derecedir?



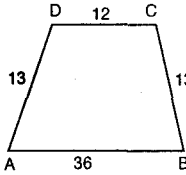
A) 5 B) 10 C) 15 D) 20 E) 25

3. ABCD eşkenar dörtgeninde
 $\widehat{A} = 120^\circ$,
IAEI = 6 cm ve
IBEI = IDFI = 2 cm ise
IEFI kaç cm dir?



A) $\frac{\sqrt{13}}{2}$ B) $\sqrt{13}$ C) $4\sqrt{7}$
D) $4\sqrt{11}$ E) $6\sqrt{11}$

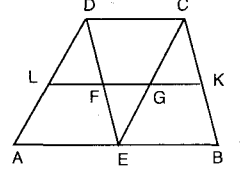
4. ABCD yamuğunda
[DC] $\parallel$ [AB],
IADI = IBCI = 13 cm,
IDCI = 12 cm ve
IABI = 36 cm ise
A(ABCD) kaç cm^2 dir?



A) 108 B) 120 C) 132 D) 140 E) 148

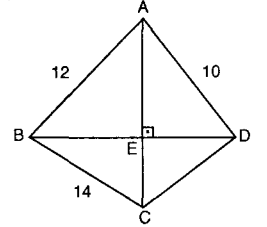
5. Boyutları 12 cm ve 24 cm olan dikdörtgenin köşegenlerinin kesişim noktasının iki komşu kenara uzaklıkları toplamı kaç cm dir?
- A) 18 B) 16 C) 14 D) 12 E) 10

6. Şekilde
[DC] $\parallel$ [AB],
LFD, FGE ve CGK bir
kenarı 6 cm olan eşkenar
üçgenlerdir. A(ABCD)
kaç cm^2 dir?



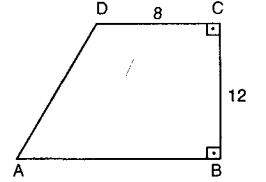
A) $56\sqrt{3}$ B) $84\sqrt{3}$ C) $92\sqrt{3}$
D) $108\sqrt{3}$ E) $124\sqrt{3}$

7. ABCD dörtgeninde
[AC] $\perp$ [BD],
IABI = 12 cm,
IBCI = 14 cm
IADI = 10 cm ise
ICDI kaç cm dir?



A) $2\sqrt{38}$ B) $\sqrt{38}$ C) $\frac{\sqrt{38}}{2}$ D) $\frac{\sqrt{38}}{3}$ E) $\frac{\sqrt{38}}{4}$

8. ABCD dik yamuğunda
IADI = IABI,
IDCI = 8 cm ve
IBCI = 12 cm ise
IABI kaç cm dir?



A) 21 B) 18 C) 16 D) 14 E) 13

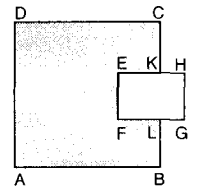
9. Bir kenarı 25 cm ve bir köşegeni 48 cm olan eşkenar dörtgenin alanı kaç cm^2 dir?

A) 312 B) 336 C) 348 D) 332 E) 360

10. Kenarları oranı $\frac{1}{6}$ olan iki düzgün altıgenin alanları oranı kaçtır?

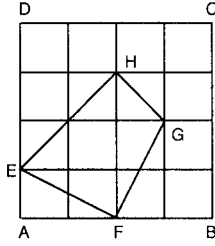
A) $\frac{1}{12}$ B) $\frac{1}{18}$ C) $\frac{1}{36}$ D) $\frac{1}{48}$ E) $\frac{1}{64}$

11. Şekilde
ABCD ve EFGH karedir.
ICKI = IKLI = ILBI = 1 cm
[FGI] $\perp$ [BC] ve
IFLI = 2ILGI ise
taralı alan kaç cm^2 dir?



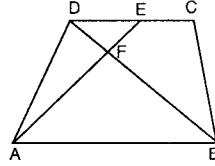
A) $\frac{18}{5}$ B) $\frac{19}{4}$ C) $\frac{25}{3}$ D) $\frac{23}{2}$ E) $\frac{45}{2}$

12. Şekildeki ABCD karesi bir kenarı 1 cm olan eş karelere bölünmüştür. EFGH dörtgeninin alanı kaç cm^2 dir?



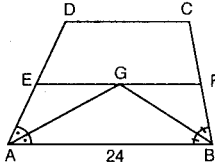
- A) 3 B) 3,5 C) 4 D) 4,5 E) 5

13. Şekilde
[DC] // [AB],
 $\widehat{A(DEF)} = 2 \text{ br}^2$,
 $\widehat{A(DAF)} = 6 \text{ br}^2$ ve
E, [DC] nin orta noktası
ise $\widehat{A(ABCD)}$ kaç br^2 dir?



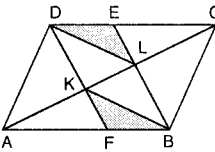
- A) 30 B) 32 C) 36 E) 38 E) 40

14. Şekildeki ABCD yamuğunda
[EF] orta taban,
|AB| = 24 cm,
[AG] ve [BG] açıortaydır.
 $\widehat{A(BFE)} = 60^\circ$ ise
 $\widehat{A(EDCF)}$ kaç cm^2 dir?



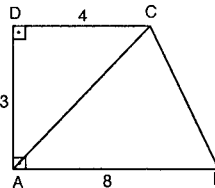
- A) 48 B) 44 C) 42 D) 40 E) 38

15. ABCD paralelkenarında
F ve E orta noktalardır.
Taralı alanlar toplamı $8\sqrt{3} \text{ cm}^2$ ise $\widehat{A(ABCD)}$ kaç $\sqrt{3} \text{ cm}^2$ dir?



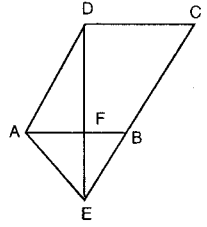
- A) 12 B) 20 C) 32 D) 38 E) 48

16. ABCD dikyamuğunda
|DC| = 4 cm,
|AB| = 8 cm ve
|AD| = 3 cm ise
 $\widehat{A(ABC)}$ kaç cm^2 dir?



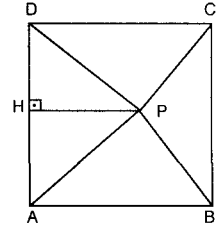
- A) 16 B) 18 C) 20 D) 24 E) 32

17. Şekilde ABCD eşkenar dörtgen,
AEB eşkenar üçgen
D, F, E ve E, B, C doğrusal
 $|DE| = 8\sqrt{3} \text{ br}$ ise
 $\widehat{A(ABCD)}$ kaç br^2 dir?



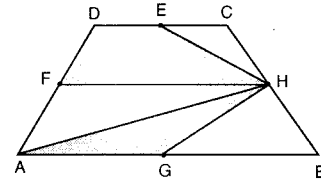
- A) 22 B) 28 C) 30 D) 32 E) 36

18. Şekilde ABCD kare
 $\widehat{A(DPC)} = 28 \text{ br}^2$,
 $\widehat{A(CPB)} = 16 \text{ br}^2$ ve
 $\widehat{A(APB)} = 36 \text{ br}^2$ ise
|PHI| kaç br^2 dir?



- A) 3 B) $3\sqrt{2}$ C) 5 D) 6 E) $6\sqrt{2}$

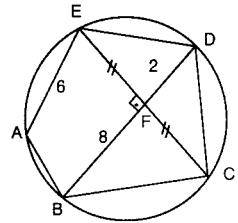
19.



Şekildeki ABCD dörtgeninde E, F, G, H orta noktalardır. $\widehat{A(ABCD)} = 72 \text{ cm}^2$ ise taralı alanlar toplamı kaç cm^2 dir?

- A) 36 B) 32 C) 28 D) 24 E) 18

20. Şekildeki çember içine
çizilen ABCDE beşgeninde
[DB] ⊥ [EC],
|DFI| = 2 br,
|FBI| = 8 br ve
|AEI| = 6 br olup
|IEFI| = |IFCI| ise
 $\widehat{A(ABCDE)}$ kaç br^2 dir?



- A) 40 B) 42 C) 44 D) 48 E) 52

TARAMA - 13

1. Şekilde

ABCD ve LKGF birer karedir.

$[EG] \perp [BC]$,

$m(\widehat{CBE}) = 30^\circ$,

$m(\widehat{E}) = 90^\circ$ ve

$A(LFGK) = 20 \text{ br}^2$ ise

$A(ABCD)$ kaç br^2 dir?

A) 35 B) 32 C) 30 D) 25 E) 24

2. ABCD dörtgeninde

$IABI = IADI = 4 \text{ cm}$,

$IBCI = ICDI = \sqrt{7} \text{ cm}$ ve

$m(\widehat{BAC}) = 30^\circ$ ise

$A(ABCD)$ kaç cm^2 dir?

A) $6\sqrt{3}$ B) $9\sqrt{3}$ C) 16 D) 18 E) $20\sqrt{3}$

3. Şekilde ABC üçgeni eş-kenar,

K, BDCE karesinin köşegenlerini kesim noktasıdır.

E, K doğrusal ve

$IBDI = 6\sqrt{6} \text{ br}$ ise

$IAEI$ kaç br dir?

A) $3(\sqrt{3} - 1)$ B) $4(2 - \sqrt{3})$ C) $6(3 - \sqrt{3})$
D) 6 E) $6\sqrt{3}$

4. ABCD paralelkenarında

$[DF] \perp [BC]$,

$[CE] \perp [AE]$,

$ICEI = 6 \text{ cm}$,

$IDFI = 4 \text{ cm}$ ve

$IBCI = 30 \text{ cm}$ ise

$\angle(ABCD)$ kaç cm dir?

A) 64 B) 75 C) 80 D) 92 E) 100

5. ABCD karesinde O köşegenlerin kesim noktasıdır.

$[EO] \perp [OF]$

$E \in [AB]$,

$F \in [BC]$ ve

$A(EBFO) = 12 \text{ br}^2$ ise

$A(AEOFCD)$ kaç br^2 dir?

A) 12 B) 24 C) 36 D) 48 E) 60

6. Çevresi 60 br olan bir dikdörtgenin uzun kenarı %75 azaltılırsa kare elde ediliyor. **Bu dikdörtgenin alanı kaç br^2 dir?**

A) 32 B) 36 C) 72 D) 100 E) 144

7. ABCD dörtgeninde

$IAEI = 2IEDI$,

$2IABI = 5IDCI$ ve

$[DC] \parallel [AB]$

$A(AEB) = 10 \text{ br}$ ise

$A(ABCD)$ kaç br^2 dir?

A) 18 B) 20 C) 21 D) 22 E) 24

8. Şekilde ABCD bir kenarı 6 cm olan kare,

EFGH bir kenarı 4 cm olan bir kare ve LBKH karedir.

$IAEI = \sqrt{34} \text{ cm}$ ise

$A(LBKH)$ kaç cm^2 dir?

A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

9. Şekilde ABCD kare, KBLM dikdörtgendir.

$IMKI = 2IMLI$,

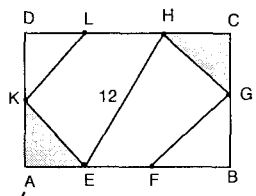
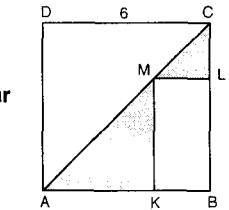
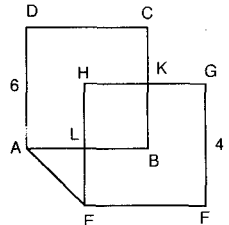
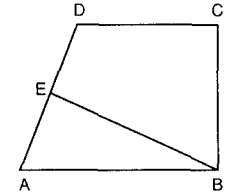
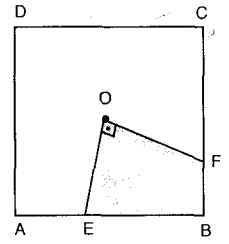
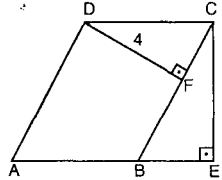
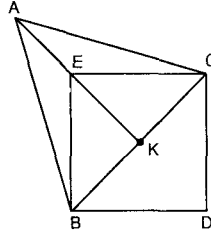
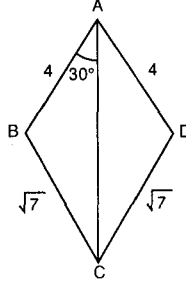
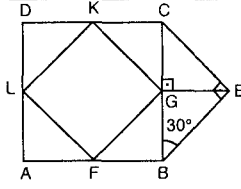
$IDCI = 6 \text{ br}$ ise taralı alanlar toplamı kaç br^2 dir?

A) 8 B) 10
C) 12 D) 14
E) 16

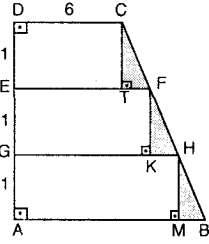
10. Şekilde ABCD dikdörtgen, EFGHLK düzgün altıgendir.

$IEHI = 12 \text{ br}$ ise **taralı alanlar toplamı kaç br^2 dir?**

A) 4 B) $4\sqrt{3}$ C) 6 D) $6\sqrt{3}$ E) $9\sqrt{3}$

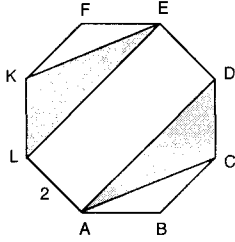


11. Şekildeki dik yamukta
 $[EF] \parallel [GH] \parallel [AB]$ dir.
 $IDEI = IEGI = IGA = 1$ cm,
 $m(\hat{T}) = m(\hat{K}) = m(\hat{M}) = 90^\circ$,
 $IDCI = 6$ cm ve
 $IABI = 12$ cm ise
taralı alanlar toplamı kaç cm^2 dir?



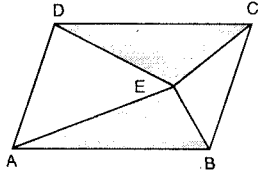
- A) $\frac{3}{2}$ B) 2 C) 3 D) $\frac{7}{2}$ E) 4

12. Şekildeki düzgün sekizkenarin bir kenarı 2 cm dir. **Taralı alanlar toplamı kaç cm^2 dir?**



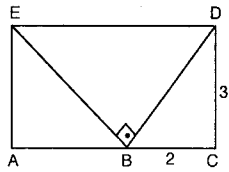
- A) $4 + 2\sqrt{2}$ B) $4\sqrt{2}$ C) $4\sqrt{2} - 2$
D) $2\sqrt{2} + 2$ E) $4 + 3\sqrt{2}$

13. ABCD dörtgeni paralelkenar olup, E noktası paralel kenarın içinde herhangi bir noktadır. **Taralı alanlar toplamı $36 br^2$ ise $A(ABCD)$ kaç br^2 dir?**



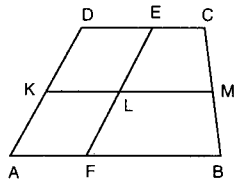
- A) 72 B) 70 C) 66 D) 60 E) 48

14. ACDE dikdörtgen $[EB] \perp [DB]$,
 $IBCI = 2$ cm,
 $IDCI = 3$ cm ise
 $A(ABCD)$ kaç cm^2 dir?



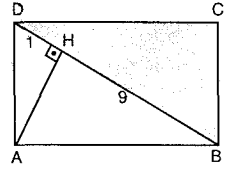
- A) $\frac{39}{4}$ B) $\frac{54}{4}$ C) $\frac{15}{2}$ D) $\frac{39}{2}$ E) $\frac{49}{2}$

15. ABCD yamuğunda $[DC] \parallel [KM] \parallel [AB]$
 $[AD] \parallel [EF]$
 $2IFI = 3ILEI$,
 $IDCI = 10$ cm ve
 $IKMI = 14$ cm ise
IABI kaç cm dir?



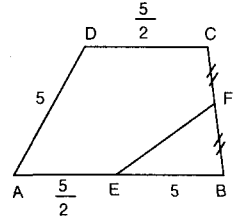
- A) 16 B) 18 C) 20 D) 22 E) 24

16. ABCD dikdörtgeninde $[AH] \perp [BD]$
 $IDHI = 1$ cm,
 $IHBI = 9$ cm ise
taralı bölgenin alanı kaç cm^2 dir?



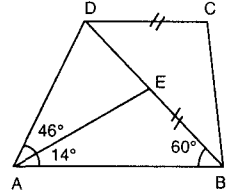
- A) 10 B) 15 C) 20 D) 25 E) 30

17. ABCD yamuğunda $[DC] \parallel [AB]$,
 $ICFI = IFBI$,
 $IBCI = 8$ br,
 $IADI = IEBI = 5$ cm,
 $IAEI = IDC = \frac{5}{2}$ cm ise
 $A(ABCD)$ kaç cm^2 dir?



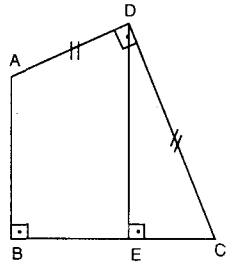
- A) 6 B) 9 C) 12 D) 18 E) 24

18. Şekilde $[DC] \parallel [AB]$,
 $IDCI = IEBI$,
 $m(\hat{DAE}) = 46^\circ$,
 $m(\hat{EAB}) = 14^\circ$ ve
 $m(\hat{DBA}) = 60^\circ$ ise
 $m(\hat{DCB})$ kaç derecedir?



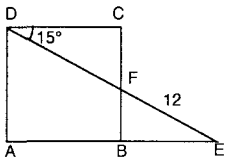
- A) 96 B) 100 C) 106 D) 108 E) 116

19. Şekilde $IADI = IDCI$,
 $IDEI = 8$ br ise
 $A(ABCD)$ kaç br^2 dir?



- A) 32 B) 64 C) 80 D) 96 E) 128

20. ABCD kare,
 $m(\hat{CDF}) = 15^\circ$ ve
 $IEFI = 12$ br ise
 $A(ABCD)$ kaç br^2 dir?



- A) 24 B) 18 C) 36 D) 48 E) 30

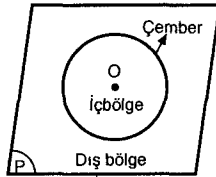
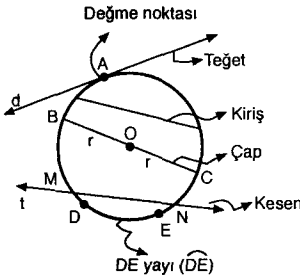
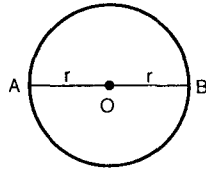
ÇEMBERLER

BÖLÜM 3

ÇEMBERDE TEĞET - KİRİŞ ÖZELİKLERİ

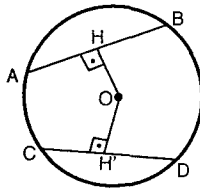
Düzlemde sabit bir noktaya eşit uzaklıkta bulunan noktalar kümesine çember denir.

O çemberin merkezi, $|OB| = r$ çemberin yarıçapı, $|AB| = 2r$ çemberin çapıdır.



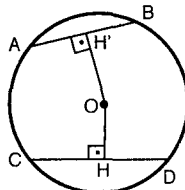
1. Bir çemberde eş kirişler, merkezden eşit uzaklıktadır.

$$|AB| = |CD| \Leftrightarrow |OH| = |OH'|$$



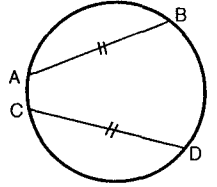
2. Bir çemberde merkeze yakın olan kiriş, uzak olan kirişle oranla uzunlukça daha büyüktür.

$$|OH'| > |OH| \Leftrightarrow |AB| < |CD| \text{ dir.}$$



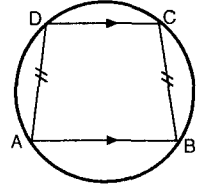
3. Bir çemberde eş kirişlerin sınırladığı yaylarda eşit.

$$|AB| = |CD| \Leftrightarrow \widehat{AB} = \widehat{CD} \text{ dir.}$$



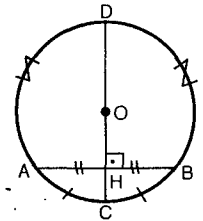
4. Bir çemberde paralel iki kiriş arasında kalan yaylar eşittir. Eşit yayların oluşturduğu kirişler de eşittir. Meydana gelen konveks dörtgen ikizkenar yamuktur.

$$|AB| \parallel |CD| \Rightarrow \widehat{AD} = \widehat{BC} \\ \Leftrightarrow |AD| = |BC| \text{ dir.}$$



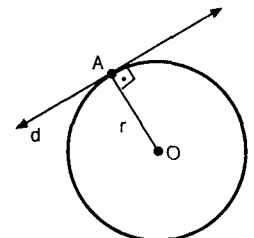
5. Bir çemberde merkezden kirişe inilen dikme kiriş ve sınırladığı yayları ortalar.
KARŞITI : Bir kirişin orta dikmesi daima merkezden geçer.

$$|AB| = |IHBI|, \\ \widehat{AC} = \widehat{BC} \text{ ve} \\ \widehat{AD} = \widehat{BD} \text{ dir.}$$



6. Bir çemberde teğetin değme noktasını merkeze birleştiren yarıçap, değme noktasında teğet doğruya diktir.

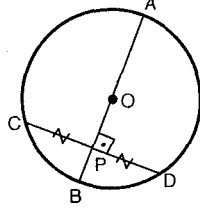
$$|OA| \perp d \text{ dir.}$$



7. Bir çemberin içbölgesinde alınacak olan bir noktadan çizilebilecek en büyük kiriş bu nokta ve merkezden geçen çaptır.
En kısa kiriş ise, bu noktadan geçen çapa, bu noktada dik olan kiriştir.

[AB] → en büyük kiriş

[CD] → en kısa kiriş



8. Teğetin değme noktasından teğete çizilen dikme merkezden geçer.

9. Bir çembere dışındaki bir P noktasından iki tane teğet çizilebilir.

Teğet parçaları birbirine eşittir.

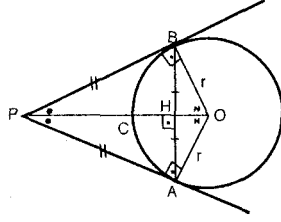
$|PA| = |PB|$ ve

$\triangle PAO \cong \triangle PBO$ dir.

$|AH| = |BH|$ dir.

PAOB dörtgeni bir deltoittir.

[PO] 'ı açıortaydır.



TEĞETLER DÖRTGENİ

Kenarları çembere teğet olan dörtgendir. Teğetler dörtgeninde içaçıortayların kesim noktası içteğet çemberin merkezidir.

Teğetler dörtgeninde karşılıklı kenarların uzunlukları toplamı birbirine eşittir.

i) $a + c = b + d$ dir.

ii) $a + b + c + d = 2u$

$A(ABCD) = (a + c) \cdot r = (b + d) \cdot r = u \cdot r$ dir.

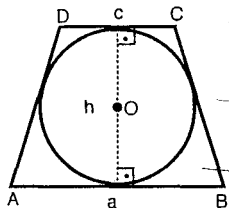
- iii) Kare, eşkenardörtgen ve deltoit birer teğetler dörtgenidir.

- iv) ABCD ikizkenar ya da muğu teğetler dörtgeni ise

$h^2 = a \cdot c$ ve

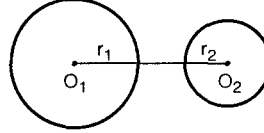
$A(ABCD) = \frac{a + c}{2} \cdot \sqrt{ac}$

dir.



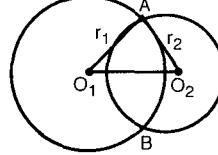
İKİ ÇEMBERİN BİRBİRİNE GÖRE DURUMLARI :

1. Birbirinin dışındadırlar.



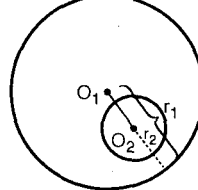
$|O_1O_2| > r_1 + r_2$ dir.

2. Kesişen çemberlerdir.



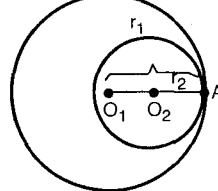
$|r_1 - r_2| < |O_1O_2| < r_1 + r_2$ dir.

3. İççe çemberlerdir.



$|O_1O_2| < |r_1 - r_2|$ dir.

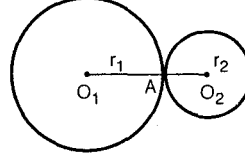
4. İçten teğettirler.



$|O_1O_2| = |r_1 - r_2|$ dir.

İçten teğet çemberlerde merkezler ve değme noktası doğrusaldır.

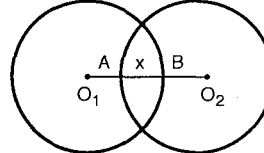
5. Dıştan teğettirler.



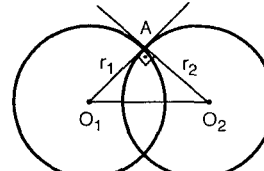
$|O_1O_2| = r_1 + r_2$ dir.

Dıştan teğet çemberlerde merkezler ve değme noktası doğrusaldır.

6. $x = r_1 + r_2 - |O_1O_2|$ dir.



7. Dik açı altında kesişen, dik kesişen ya da ortogonal çemberlerde;



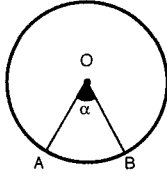
$|O_1O_2|^2 = r_1^2 + r_2^2$ dir.

ÇEMBERDE AÇILAR

1. MERKEZ AÇI:

Köşesi çemberin merkezinde bulunan açıya merkez açı denir. Merkez açının ölçüsü gördüğü yayın ölçüsüne eşittir.

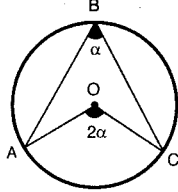
$$m(\widehat{AOB}) = \alpha = m(\widehat{AB}) \text{ dir.}$$



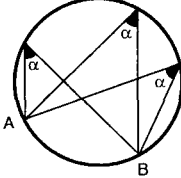
2. ÇEVRE AÇI:

Köşesi çember üzerinde olan ve kolları bu çembere kesen açıya çevre açısı (çember açısı) denir. Çevre açının ölçüsü gördüğü yayın ölçüsünün yarısına eşittir.

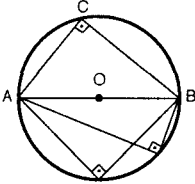
$$m(\widehat{ABC}) = \alpha = \frac{m(\widehat{AC})}{2} \text{ dir.}$$



- ★ Aynı yayı gören çevre açının ölçüsü, aynı yayı gören merkez açının yarısına eşittir.
- ★ Aynı yayı gören çevre açıların ölçüleri eşittir.



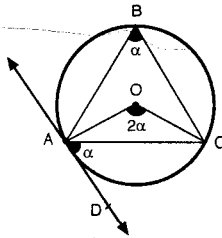
- ★ Çapı gören çevre açı 90° dir.



3. TEĞET - KİRİŞ AÇI

Köşesi çember üzerinde olan çemberin bir teğeti ile kirişi arasında kalan açıdır.

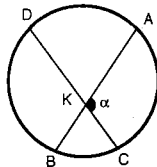
$$m(\widehat{DAC}) = \alpha = \frac{m(\widehat{AC})}{2} \text{ dir.}$$



- ★ Teğet kiriş açısı, aynı yayı gören merkez açının yarısıdır.
- ★ Aynı yayı gören teğet-kiriş açısı ve çevre açıları eşittir.

4. İÇ AÇI:

Çemberin kesişen iki kirişi arasında kalan açıdır. Gördüğü yaylar toplamının yarısıyla ölçülür.

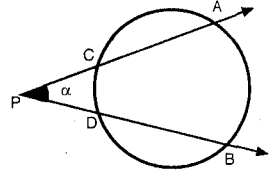


$$m(\widehat{AKC}) = m(\widehat{BKD}) = \alpha = \frac{m(\widehat{AC}) + m(\widehat{BD})}{2} \text{ dir.}$$

5. DIŞ AÇI:

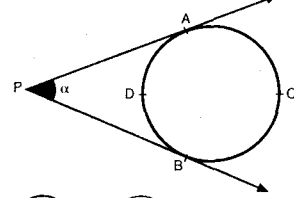
Çemberin dış bölgesinde kesişen iki kesenin arasında kalan açıdır.

Gördüğü yaylar farkının (mutlak değerce) yarısıyla ölçülür.



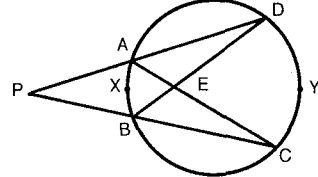
$$m(\widehat{APB}) = \alpha = \frac{|m(\widehat{AB}) - m(\widehat{CD})|}{2} \text{ dir.}$$

- ★ Dış açı çemberin iki teğeti arasında kalıyorsa;



$$m(\widehat{APB}) = \frac{|m(\widehat{ACB}) - m(\widehat{ADB})|}{2} \text{ ve } \alpha + m(\widehat{ADB}) = 180^\circ \text{ dir.}$$

- ★ Bir çemberde aynı yayları gören iç açı ve dış açıların ölçüleri toplamı, açılar gördüğü büyük yay ölçüsüne eşittir.



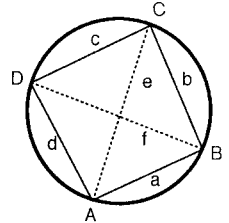
$$m(\widehat{DYC}) > m(\widehat{AXB}) \text{ ise;}$$

$$m(\widehat{DPC}) + m(\widehat{DEC}) = m(\widehat{DYC}) \text{ dir.}$$

KİRİŞLER DÖRTGENİ:

Köşeleri çember yayı üzerinde olan dörtgene kirişler dörtgeni denir.

- i) Kirişler dörtgeninde karşılıklı açılar toplamı 180° dir.



$$m(\widehat{A}) + m(\widehat{C}) = m(\widehat{B}) + m(\widehat{D}) = 180^\circ \text{ dir.}$$

- ii) Kirişler dörtgeninde

$$a \cdot c + b \cdot d = AC \cdot BD$$

$$a \cdot c + b \cdot d = e \cdot f \text{ dir.}$$

- iii) $a + b + c + d = 2u$ ise

$$A(ABCD) = \sqrt{(u-a)(u-b)(u-c)(u-d)} \text{ dir.}$$

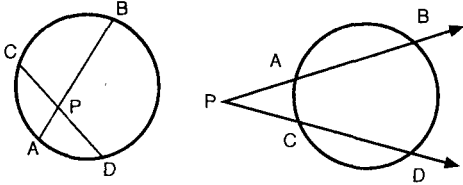
- iv) Kirişler dörtgeni aynı zamanda teğetler dörtgeni ise;

$$A(ABCD) = \sqrt{a \cdot b \cdot c \cdot d} \text{ dir.}$$

- v) Kare, dikdörtgen ve ikizkenar yamuk kirişler dörtgenidir.

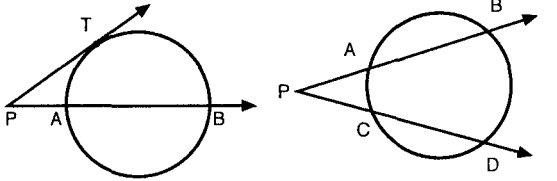
ÇEMBERDE KESEN ÖZELİKLERİ VE KUVVET

BİR NOKTANIN BİR ÇEMBERE GÖRE KUVVETİ:



Çember düzleminde alınan bir P noktasından geçen giriş veya kesen, çemberi A ve B noktalarında kesiyorsa $|PA| \cdot |PB|$ çarpımına P noktasının bu çembere göre kuvveti denir.

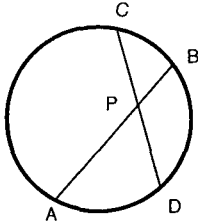
i) Nokta çemberin dışında ise: Kuvvet = $P > 0$ dir.



$$P = |PT|^2 = |PA| \cdot |PB| \text{ dir.}$$

$$P = |PA| \cdot |PB| = |PC| \cdot |PD|$$

ii) Nokta çemberin içinde ise: Kuvvet = $P < 0$ dir.

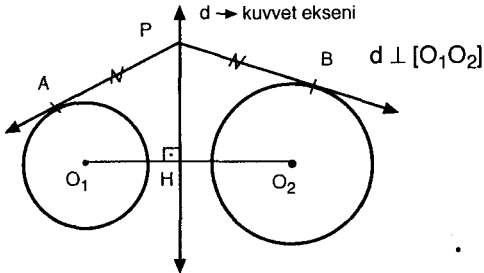


$$|PA| \cdot |PB| = |PC| \cdot |PD| \text{ dir.}$$

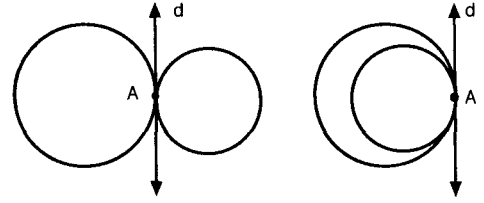
iii) Nokta çember üzerinde ise: Kuvvet = $P = 0$ dir.

KUVVET EKSENİ:

İki çembere göre aynı kuvvette olan noktaların geometrik yerine kuvvet eksenini denir. Kuvvet eksenini merkezler doğrusuna diktir.

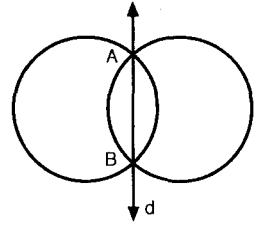


$$|PA|^2 = |PB|^2 \Rightarrow |PA| = |PB| \text{ dir.}$$

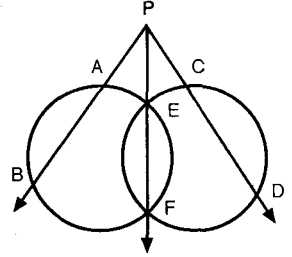


Çemberler dıştan veya içten bir A noktasında teğet ise, kuvvet eksenini A dan çizilen ortak teğettir.

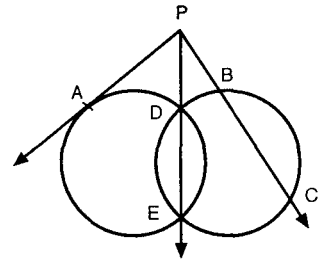
Kesişen iki çemberin kuvvet eksenini, ortak noktalardan geçen doğrudur.



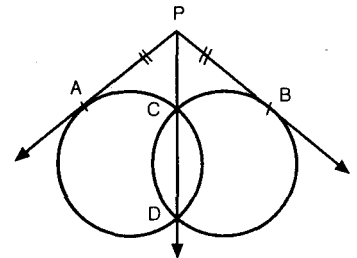
$$|PA| \cdot |PB| = |PC| \cdot |PD| \text{ dir.}$$



$$|PA|^2 = |PB| \cdot |PC| \text{ dir.}$$

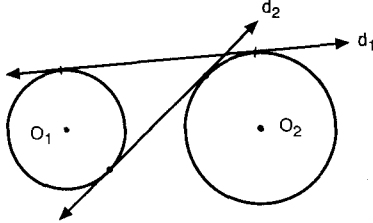


$$|PA|^2 = |PB|^2 \text{ ya da } |PA| = |PB| \text{ dir.}$$



İKİ ÇEMBERİN ORTAK TEĞETLERİ:

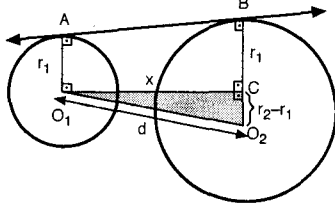
Aynı düzlemde bulunan, iki çemberde teğet olan doğruya bu çemberlerin ortak teğeti denir. Çemberlerin merkezi ortak teğete göre aynı tarafta ise bu teğete ortak dış teğet, çemberlerin merkezi ortak teğete göre farklı taraflarda ise bu teğete ortak iç teğet denir.



Şekilde d_1 ortak dış teğet, d_2 ortak iç teğettir.

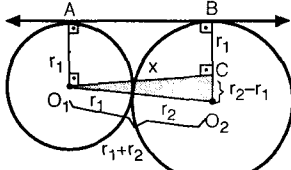
ORTAK DIŞ TEĞET PARÇASININ UZUNLUĞU:

$IAO_1| = r_1$, $IAO_2| = r_2$, $IO_1O_2| = d$ olsun.



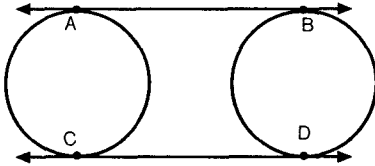
$$x = IAB| = \sqrt{d^2 - (r_2 - r_1)^2} \text{ dir.}$$

Çemberler dıştan teğet ise;

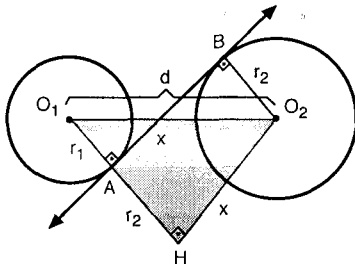


$$x = IAB| = 2\sqrt{r_1 \cdot r_2} \text{ dir.}$$

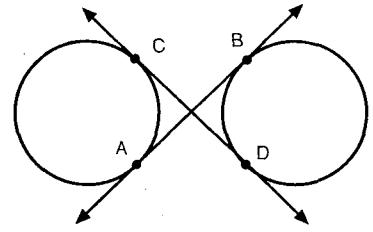
Dış ortak teğet parçaları birbirine eşittir.



$$IAB| = ICD| \text{ dir.}$$

ORTAK İÇ TEĞET PARÇASININ UZUNLUĞU:

$$IAB| = x = \sqrt{d^2 - (r_1 + r_2)^2} \text{ dir.}$$

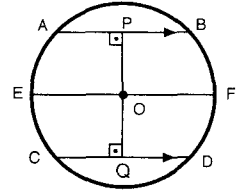


İç ortak teğet parçaları eşittir.

$$IAB| = ICD| \text{ dir.}$$

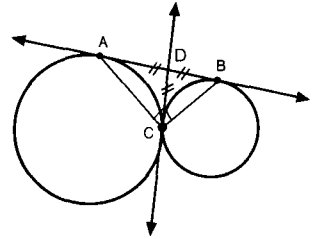
UYARILAR:

1. Çemberin merkezinin farklı tarafında olan paralel kirişler arasındaki uzaklık, tabanları bu kirişler olan yamuğun orta taban uzunluğu olur. Bu özellik bilinirse



$$IPQ| = \frac{IAB| + ICD|}{2} \text{ dir.}$$

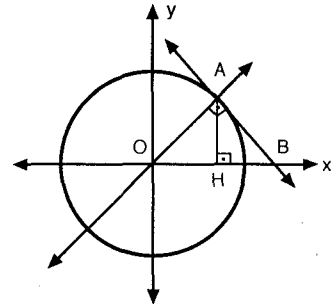
2. Birbirine C noktasında dıştan teğet olan iki çemberin ortak teğeti AB ve [CD ise



$IDA| = IDB| = IDC|$ olacağından
 $m(\widehat{ACB}) = 90^\circ$

olur. Yani ABC üçgeni dik üçgendir.

- 3.



$IAB| \rightarrow$ Teğet uzunluğu

$IOA| \rightarrow$ Normal uzunluğu

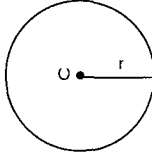
$IBH| \rightarrow$ Teğet altı uzunluğu

$IOH| \rightarrow$ Normal altı uzunluğu

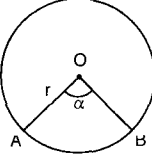
ÇEMBERDE ÇEVRE ALAN VE BENZERLİK

1. r yarıçaplı çemberin çevresi
 $\hat{C} = 2\pi r$ dir.

$$\pi = \frac{22}{7} = 3,1416... \text{ dir.}$$



2. α° lik merkez açığı gören yayın ölçüsü
 $m(\widehat{AB}) = \alpha^\circ$ dir.



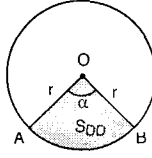
3. α° lik merkez açığı gören yayın uzunluğu
 $\alpha^\circ \quad \widehat{AB}$

$$D.O \quad \widehat{AB} = \frac{2\pi r \alpha^\circ}{360^\circ} = \frac{\alpha^\circ \pi r}{180^\circ} \text{ dir.}$$

4. Yarıçapı r olan dairenin alanı $S = \pi r^2$ dir.

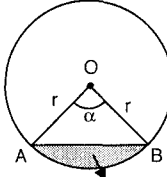
5. α° lik merkez açığı gören daire diliminin alanı
 $\alpha^\circ \quad S_{DD}$

$$D.O \quad S_{DD} = \frac{\alpha^\circ \pi r^2}{360^\circ} \text{ dir.}$$

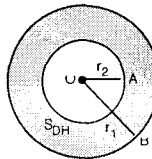


6. α° lik merkez açığı gören daire parçasının alanı,

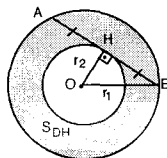
$$S_{DP} = \frac{\alpha^\circ \pi r^2}{360^\circ} - \frac{1}{2} r^2 \sin \alpha^\circ \text{ dir.}$$



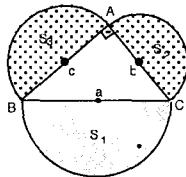
7. Aynı merkezli r_1 ve r_2 yarıçaplı iç içe iki çemberin sınırladığı daire halkasının alanı,
 $S_{DH} = \pi r_1^2 - \pi r_2^2 = \pi(r_1^2 - r_2^2)$ dir.



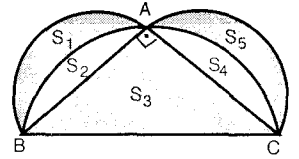
8. Aynı merkezli r_1, r_2 yarıçaplı iç içe iki çemberde $[AB]$, içtekinin H noktasında teğeti, dıştaki bir kirişi ise $(|AH| = |HB| \text{ dir.})$,
 $S_{DH} = \pi \cdot |AH|^2 = \pi \cdot x^2$ dir.



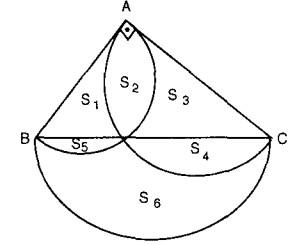
9. $[BC]$, $[AC]$ ve $[AB]$ yarım çemberlerin çapları ve $m(\widehat{BAC}) = 90^\circ$ ise yani $a^2 = b^2 + c^2$ ise $S_1 = S_2 + S_3$ dır.



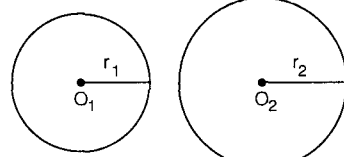
10. $[BC]$, $[AC]$ ve $[AB]$ yarım çemberlerin çapları ve $m(\widehat{BAC}) = 90^\circ$ ise $S_3 = S_1 + S_5$ dir.



11. $[AB]$, $[AC]$ ve $[BC]$ yarım çemberlerin çapı ve $m(\widehat{BAC}) = 90^\circ$ ise $\Delta A(ABC) = S_6 - S_2$ dir.



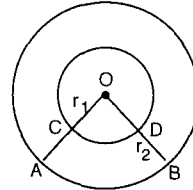
12. Bütün çemberler benzerdir. Benzerlik oranı uzunluk elemanlarının oranına eşittir.



$$\text{Benzerlik oranı} = \frac{r_1}{r_2} = \frac{C_1}{C_2} \text{ dir.}$$

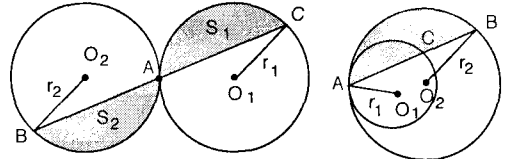
$$\frac{S_1}{S_2} = \left(\frac{r_1}{r_2} \right)^2 \text{ dir.}$$

13. Aynı merkezli daire dilimleri benzerdir. $|OC| = r_1$, $|OB| = r_2$ olmak üzere



$$\frac{\text{OCD diliminin alanı}}{\text{OAB diliminin alanı}} = \left(\frac{r_1}{r_2} \right)^2 \text{ dir.}$$

- 14.



İçten ve dıştan teğet çemberlerde değme noktalarından geçen ortak kirislerin ayırdığı yaylar ve daire parçaları benzerdir.

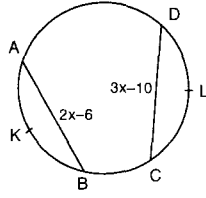
$$\frac{S_1}{S_2} = \left(\frac{r_1}{r_2} \right)^2 = \left(\frac{|AC|}{|AB|} \right)^2 \text{ dir.}$$

ÇEMBERDE TEĞET-KİRİŞ ÖZELLİKLERİ

TEST

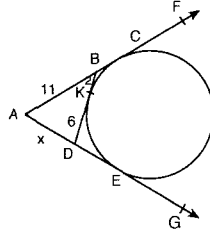
1

1. Yandaki şekilde
 $\widehat{IAKB} = \widehat{IDLC}$
 $IABI = (2x-6)$ br,
 $IDCI = (3x-10)$ br ise
x kaçtır?



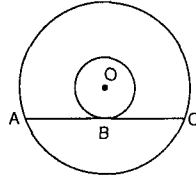
A) 4 B) 5 C) 6 D) 7 E) 8

2. Şekilde C, K ve E teğetlerin
 değme noktalarıdır.
 $IBKI = 2$ br,
 $IKDI = 6$ br ve
 $IABI = 11$ br ise **x kaç br'dir?**



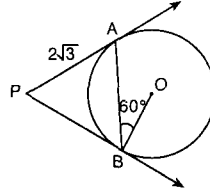
A) 5 B) 6 C) 7 D) 8 E) 9

3. Şekilde O merkezli
 yarıçapları 13 br ve 5 br
 olan çemberler çizilmiştir.
 $[AC]$ küçük çembere B nok-
 tasında teğet ise **IACI kaç
 br'dir?**

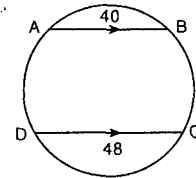


A) 16 B) 18 C) 20 D) 22 E) 24

4. Şekildeki O merkezli
 çembere P noktasından
 $[PA]$ ve $[PB]$ teğetlerinin
 değme noktaları A ve B
 noktalarıdır. $m(\widehat{ABO}) = 60^\circ$
 ve $IPAI = 2\sqrt{3}$ cm ise
**çemberin yarıçapı kaç
 cm'dir?**

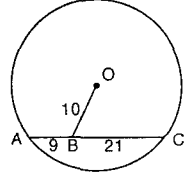
A) 6 B) $6\sqrt{3}$ C) 8 D) $8\sqrt{3}$ E) 12

5. Şekildeki çemberde;
 $[AB] \parallel [DC]$, $IABI = 40$ br,
 $IDCI = 48$ br ve $[AB]$ ile $[DC]$
 arasındaki uzaklık 22 br ise
çemberin çapı kaç br'dir?



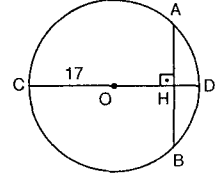
A) 64 B) 60 C) 58 D) 52 E) 50

6. Şekildeki O merkezli
 çemberde $IABI = 9$ br,
 $IOBI = 10$ br ve $IBCI = 21$ br
 olduğuna göre **çemberin
 yarıçapı kaç br'dir?**



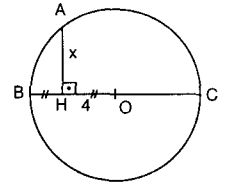
A) 24 B) 20 C) 18 D) 17 E) 16

7. Şekildeki O merkezli
 çemberde $ICOI = 17$ br ve
 $IABI = 16$ br ise **IHDİ kaç
 br'dir?**

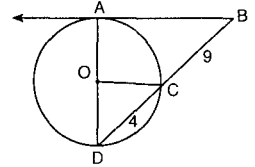


A) 1 B) 2 C) 3 D) 4 E) 5

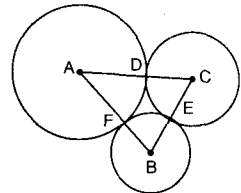
8. Şekilde $[BC]$ çaplı
 çemberin merkezi O nok-
 tasıdır.
 $IBHI = IHOI = 4$ cm ise
IAHI = x kaç cm'dir?

A) 3 B) 4 C) $4\sqrt{3}$ D) 6 E) $6\sqrt{3}$

9. Şekildeki O merkezli
 çembere $[BA]$ teğeti A
 noktasında
 değmektedir.
 $IBCI = 9$ br, $IDCI = 4$ br
 ise **IOCI kaç br'dir?**

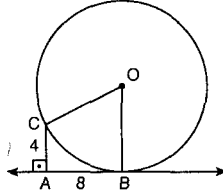
A) $\sqrt{13}$ B) $4\sqrt{3}$ C) 7
D) $2\sqrt{13}$ E) $3\sqrt{6}$

10. Şekildeki A, B, C mer-
 kezli çemberler D, E, F
 noktalarında birbirlerine
 teğettir.
 $IACI = 11$ br,
 $IABI = 10$ br ve
 $IBCI = 9$ br ise **IAFI kaç
 br'dir?**



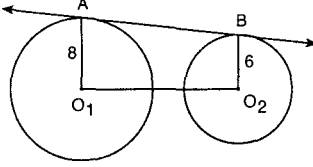
A) 7 B) 6 C) 5 D) 4 E) 3

11. Şekilde AB doğrusu B noktasında O merkezli çembere teğettir. $[CA] \perp [AB]$, $|CA| = 4$ br ve $|AB| = 8$ br ise çemberin yarıçapı kaç br'dir?



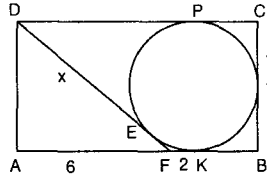
A) 10 B) 11 C) 12 D) 13 E) 14

12. Şekilde O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 8 br ve 6 br'dir. d doğrusu iki çemberin ortak dış teğeti ve $|O_1O_2| = 2\sqrt{26}$ br ise $|AB|$ kaç br'dir?



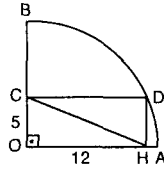
A) 12 B) 10 C) 9 D) 8 E) 6

13. Şekilde ABCD dikdörtgen, E, K, T, P teğetlerin değme noktalarıdır. $|AF| = 6$ br, $|FK| = 2$ br ve $|TC| = 4$ br ise $|DE| = x$ kaç br'dir?



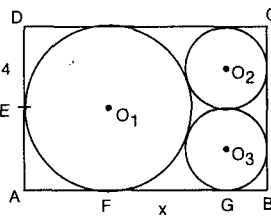
A) 5 B) 6 C) 7 D) 8 E) 10

14. Şekilde O merkezli çeyrek çemberin içine OHDC dikdörtgeni çizilmiştir. $|OC| = 5$ br, $|OH| = 12$ br ise $|HA|$ kaç br'dir?



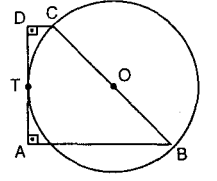
A) 0.5 B) 1 C) 1.5 D) 2 E) 2.5

15. Şekildeki O_1, O_2, O_3 merkezli çemberler birbirlerine ve ABCD dikdörtgenine teğettir. $|DE| = 4$ br ise $|FG| = x$ kaç br'dir?



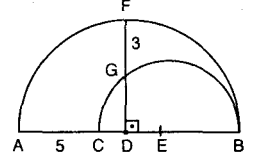
A) $2\sqrt{2}$ B) 4 C) $4\sqrt{2}$
D) 6 E) 8

16. Şekilde O merkezli çember içine ABCD dörtgeni çizilmiştir. $[AD]$ T noktasında çembere teğettir. $|BC| = 16$ br ve $|AD| = 10$ br ise $A(ABCD)$ kaç br'dir?



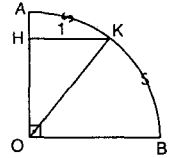
A) 104 B) 100 C) 96 D) 84 E) 80

17. Şekildeki D ve E merkezli çemberler B noktasında içten teğettir. $[FD] \perp [AB]$, $|AC| = 5$ br ve $|FG| = 3$ br ise $|DE|$ kaç br'dir?



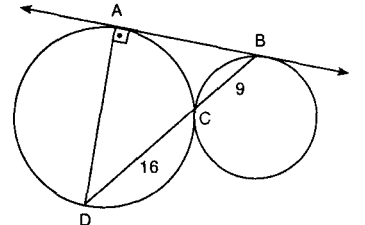
A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

18. Şekildeki O merkezli çeyrek çemberde $|AK| = |KB|$, $|HK| = 1$ br ise $|AH|$ kaç br'dir?



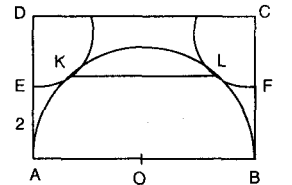
A) 1 B) $\frac{\sqrt{2}}{2}$ C) $\sqrt{2}$
D) $\sqrt{2}-1$ E) $\sqrt{2}+1$

19. Şekildeki çemberler C noktasında birbirlerine, A ve B noktalarında $[AB]$ na teğettir. $[DA] \perp AB$, $|DC| = 16$ br, $|CB| = 9$ br ise büyük çemberin yarıçapı kaç br'dir?



A) 10 B) 11 C) 12 D) 13 E) 14

20. Şekilde ABCD dikdörtgendir. O merkezli yarım çember K ve L noktalarında çeyrek çemberlere teğettir. $|EA| = 2$ br ve $|DC| = 6$ br ise $|KL|$ kaç br'dir?

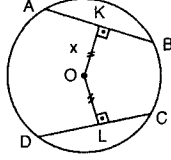


A) 2 B) $\frac{12}{5}$ C) 3 D) $\frac{16}{5}$ E) $\frac{18}{5}$

ÇEMBERDE TEĞET-KİRİŞ ÖZELLİKLERİ

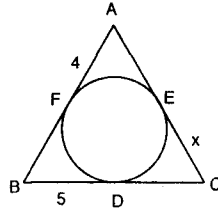
TEST 2

1. Şekildeki O merkezli çemberde $[OK] \perp [AB]$, $[OL] \perp [DC]$, $|OK| = |OL| = x$ br, $|AB| = (x + 10)$ br ve $|DL| = (x + 2)$ br olduğuna göre çemberin yarıçapı kaç br'dir?



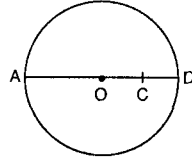
A) 6 B) 8 C) 10 D) 12 E) 15

2. Şekilde çevresi 24 br olan ABC üçgeninin iç teğet çemberi çizilmiştir. $|AF| = 4$ br, $|BD| = 5$ br ise $|EC| = x$ kaç br'dir?



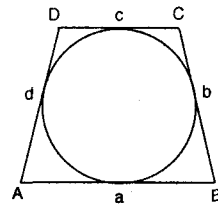
A) 2 B) 3 C) 4 D) 5 E) 6

3. Şekildeki O merkezli çemberde $\frac{|AC|}{|CD|} = 9$ ve C'den çizilebilecek en kısa kiriş 6 br ise $|AD|$ kaç br'dir?



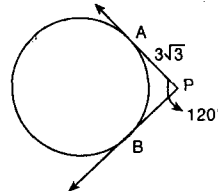
A) 16 B) 15 C) 12 D) 10 E) 9

4. Şekildeki ABCD teğetler dörtgeninin kenar uzunlukları verilmiştir. $b = 10$ br $d - c = 12$ br ise a kaç br'dir?



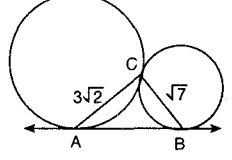
A) 16 B) 15 C) 14 D) 13 E) 22

5. Şekilde A ve B teğetlerin değme noktalarıdır. $m(\hat{APB}) = 120^\circ$ ve $|AP| = 3\sqrt{3}$ br ise çemberin yarıçapı kaç br'dir?



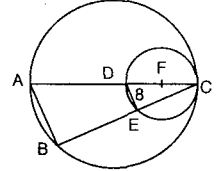
A) 12 B) 10 C) 9 D) 8 E) 6

6. Şekildeki dıştan teğet çemberler AB doğrusuna A ve B noktalarında teğettir. $|AC| = 3\sqrt{2}$ br ve $|CB| = \sqrt{7}$ br ise $|AB|$ kaç br'dir?



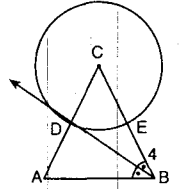
A) 5 B) $2\sqrt{6}$ C) $2\sqrt{7}$ D) $4\sqrt{2}$ E) 6

7. Şekilde D ve F merkezli çemberler C noktasında birbirlerine içten teğettir. $|DE| = 8$ br ise $|AB|$ kaç br'dir?



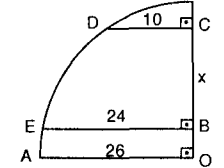
A) 9 B) 12 C) 15 D) 16 E) 18

8. Şekilde $[BD]$ C merkezli çembere D noktasında teğettir. $m(\hat{ABD}) = m(\hat{CBD})$, $|BE| = 4$ br ve $|AC| = 10$ br ise $|AB|$ kaç br'dir?



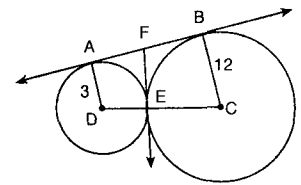
A) 14 B) 13 C) 12 D) 10 E) 9

9. Şekildeki O merkezli çeyrek çemberde; $|AO| = 26$ br, $|EB| = 24$ br ve $|DC| = 10$ br ise $|BC| = x$ kaç br'dir?



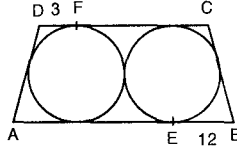
A) 13 B) 14 C) 15 D) 16 E) 17

10. Şekilde AB C ve D merkezli, E noktasında dıştan teğet çemberlerin ortak teğetidir. $|AD| = 3$ br ve $|BC| = 12$ br ise $|FE|$ kaç br'dir?



A) 6 B) $2\sqrt{10}$ C) $2\sqrt{11}$
D) $4\sqrt{3}$ E) 7

11. Şekilde ABCD ikizkenar yamuğunun üç kenarına teğet olan eş iki çember çizilmiştir.

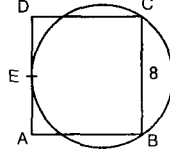


IDFI = 3 br ve

IEBI = 12 br ise çemberlerin yarıçapı kaç br'dir?

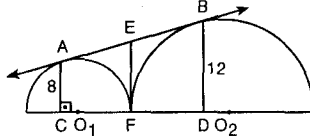
- A) 10 B) 9 C) 8 D) 6 E) 5

12. Şekildeki ABCD karesi E noktasında çembere teğettir. IBCI = 8 br ise çemberin yarıçapı kaç br'dir?



- A) 8 B) 7 C) 6 D) 5 E) 4

13. Şekilde O_1 ve O_2 çemberlerin merkezidir.



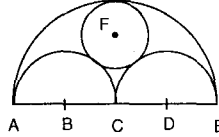
$[AC] \parallel [EF] \parallel [BD]$

$[AC] \perp [CD]$,

IACI = 8 br ve IBDI = 12 br ise IEFI kaç br'dir?

- A) 9 B) 9.5 C) 10 D) 10.5 E) 11

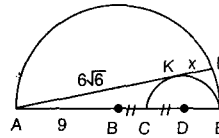
14. Şekilde B, C, D yarım çemberlerin merkezleridir.



IAEI = 16 br ise F merkezli çemberin yarıçapı kaç br'dir?

- A) 5 B) 4 C) $\frac{10}{3}$ D) 3 E) $\frac{8}{3}$

15. Şekildeki yarım çemberlerin merkezleri B ve D'dir.



IBCI = ICDI

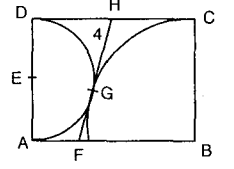
IABI = 9 br ve

IAKI = $6\sqrt{6}$ br

ise IKLI = x kaç br'dir?

- A) $\sqrt{6}$ B) $\frac{6\sqrt{6}}{5}$ C) $\frac{3\sqrt{6}}{2}$ D) $2\sqrt{6}$ E) $3\sqrt{6}$

16. Şekildeki ABCD dikdörtgeninde E ve B merkezli çemberler G noktasında birbirlerine teğettir. IHGI = 4 br ise IEAI kaç br'dir?



- A) $2\sqrt{2}$ B) 3 C) 4
D) $3\sqrt{2}$ E) $4\sqrt{2}$

17. Şekilde [BK A noktasında çembere teğettir.

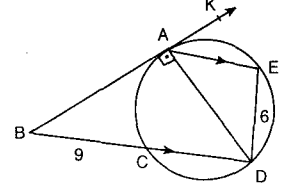
$[DA] \perp [BA]$,

$[AE] \parallel [BD]$,

IBCI = 9 br ve

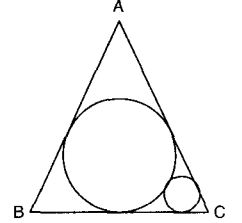
IEDI = 6 br ise

çemberin çapı kaç br'dir?



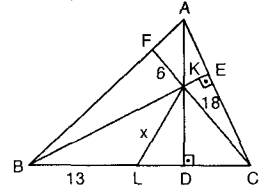
- A) $2\sqrt{10}$ B) $4\sqrt{3}$ E) $5\sqrt{2}$
D) $2\sqrt{13}$ E) $2\sqrt{14}$

18. Şekilde ABC eşkenar üçgeninin kenarlarına teğet çemberler çizilmiştir. Çemberlerin yarıçapları oranı aşağıdakilerden hangisidir?



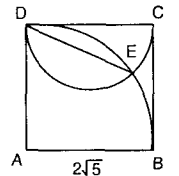
- A) $\frac{1}{6}$ B) $\frac{1}{5}$ C) $\frac{1}{4}$ D) $\frac{1}{3}$ E) $\frac{1}{2}$

19. Şekilde ABC de, $[AD] \perp [BC]$, $[BE] \perp [AC]$, IBLI = ILCI = 13 br IFKI = 6 br ve IKCI = 18 br ise IKLI = x kaç br'dir?



- A) $\sqrt{65}$ B) $\sqrt{61}$ C) $3\sqrt{6}$
D) $2\sqrt{13}$ E) $5\sqrt{2}$

20. Şekildeki ABCD karesi içine yarım ve çeyrek çemberler çizilmiştir. IABI = $2\sqrt{5}$ br ise IDEI kaç br'dir?

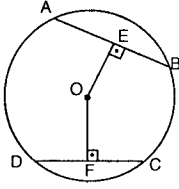


- A) 5 B) $2\sqrt{6}$ C) $2\sqrt{5}$ D) $\sqrt{17}$ E) 4

ÇEMBERDE TEĞET-KİRİŞ ÖZELLİKLERİ

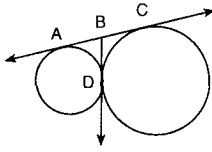
TEST 3

1. Şekilde O merkezli çemberde
 $[OE] \perp [AB]$,
 $[OF] \perp [DC]$,
 $IOEI < IOFI$,
 $IABI = (4x - 10)$ br ve
 $IDCI = (2x + 6)$ br ise **IABI** nin en küçük tamsayı değeri kaçtır?



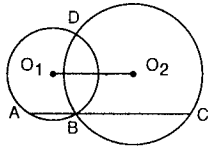
A) 33 B) 30 C) 26 D) 23 E) 20

2. Şekilde A, C ve D teğetlerin değme noktalarıdır.
 $IACI = 16$ br ise **IDBI** kaç br'dir?



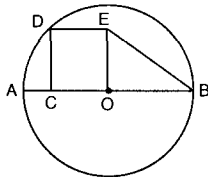
A) 4 B) 8 C) 10 D) 12 E) 16

3. Şekilde O_1 ve O_2 merkezli çemberler verilmiştir.
 $IACI = 16$ br olduğuna göre IO_1O_2I kaç br'dir?



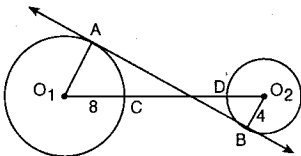
A) 13 B) 12 C) 10 D) 9 E) 8

4. Şekilde O merkezli çember içine OCDE karesi çizilmiştir.
 $IABI = 4\sqrt{2}$ br ise **IBEI** kaç br'dir?



A) 5 B) 4 C) $2\sqrt{3}$ D) $3\sqrt{2}$ E) $2\sqrt{6}$

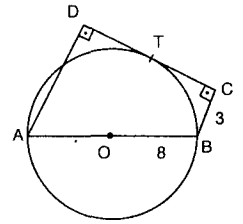
5.



Şekilde O_1 ve O_2 çemberlerin merkezleridir.
 $IO_1CI = 8$ br, $IO_2BI = 4$ br, $IABI = 16$ br ise **IDCI** kaç br'dir?

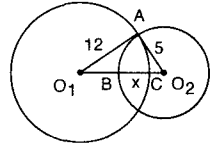
A) 8 B) 9 C) 10 D) 11 E) 12

6. Şekildeki O merkezli çemberde $[AD] \perp [DC]$,
 $[BC] \perp [DC]$,
 $IOBI = 8$ br
 $IBCI = 3$ br ise **IADI** kaç br'dir?



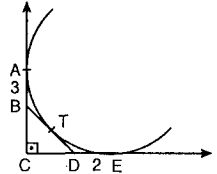
A) 20 B) 18 C) 16 D) 15 E) 13

7. Şekilde O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 12 br ve 5 br olan iki çember verilmiştir.
 $IBC I = x$ kaç br'dir?



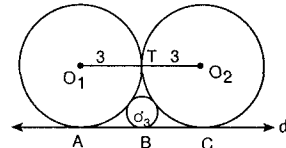
A) $\frac{5}{2}$ B) 3 C) $\frac{7}{2}$ D) 4 E) $\frac{9}{2}$

8. Şekilde $[CA] \perp [CE]$,
 $IABI = 3$ br,
 $IDEI = 2$ br ise **çemberin yarıçapı** kaç br'dir?



A) 5 B) 6 C) 7 D) 7.5 E) 8

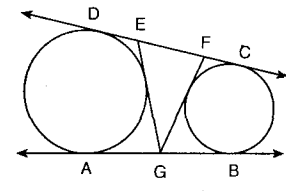
9.



Şekilde O_1 , O_2 ve O_3 merkezli çemberler birbirlerine ve d'ye teğettir.
 $IO_1TI = IO_2TI = 3$ br ise **O_3 merkezli çemberin yarıçapı** kaç br'dir?

A) $\frac{3}{2}$ B) $\frac{3}{4}$ C) $\frac{5}{4}$ D) $\frac{6}{5}$ E) $\frac{4}{3}$

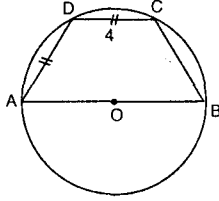
10.



Şekilde $IABI = 10$ br ise **GEF** nin çevresi kaç br'dir?

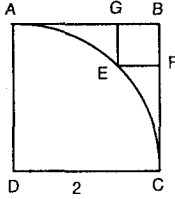
A) 16 B) 18 C) 20 D) 24 E) 25

11. Şekildeki O merkezli çember içine ABCD yamuğu çizilmiştir. $IADI = IDCI = 4$ br ise **A(ABCD) kaç br² dir?**



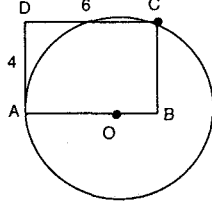
- A) 6 B) $6\sqrt{3}$ C) 10 D) 12 E) $12\sqrt{3}$

12. Şekilde ABCD ve EFBG karedir. D merkezli çember yayının yarıçapı 2 br ise **IBGI kaç br'dir?**



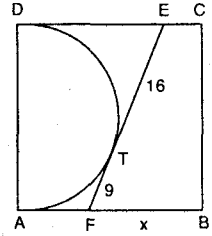
- A) $3 - \sqrt{2}$ B) $\sqrt{2} - 1$ C) $3 - 2\sqrt{2}$
D) $2 - \sqrt{2}$ E) $2\sqrt{2} - 1$

13. Şekilde ABCD dikdörtgeninin A ve C köşelerinden geçen O merkezli çember yayı çizilmiştir. $IADI = 4$ br ve $IDCI = 6$ br ise **IOBI kaç br'dir?**



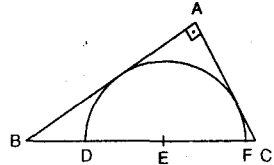
- A) $\frac{3}{5}$ B) $\frac{3}{4}$ C) 3 D) $\frac{4}{3}$ E) $\frac{5}{3}$

14. Şekildeki ABCD karesinin içinde çizilmiş [AD] çaplı yarım çember [EF] ye T noktasında teğettir. $ETI = 16$ cm ve $ITFI = 9$ cm ise **IFBI = x kaç cm'dir?**



- A) 16 B) 15 C) 12 D) 10 E) 9

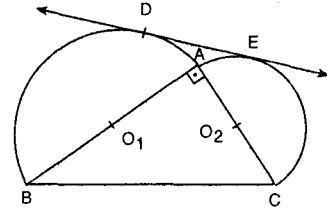
15. Şekilde ABC nin iki kenarına teğet E merkezli çember çizilmiştir.



$IABI = 12$ br ve $IACI = 5$ br ise **IEFI kaç br'dir?**

- A) $\frac{65}{17}$ B) $\frac{63}{17}$ C) $\frac{60}{17}$ D) $\frac{55}{17}$ E) $\frac{50}{17}$

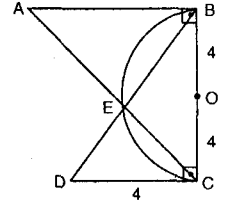
16.



Şekildeki ABC de O_1 ve O_2 merkezli çemberler çizilmiştir. $m(\widehat{BAC}) = 90^\circ$, $IABI = 24$ br ve $IACI = 10$ br ise **IDEI kaç br'dir?**

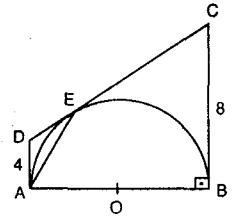
- A) 11 B) $2\sqrt{30}$ C) 12
D) $5\sqrt{6}$ E) $4\sqrt{10}$

17. Şekilde 4 br yarıçaplı, O merkezli çemberde $IDCI = 4$ br ise **IABI kaç br'dir?**



- A) 16 B) 15 C) 12 D) 10 E) 8

18. Şekildeki ABCD yamuğu ve O merkezli çember verilmiştir. $IBCI = 8$ br ve $IADI = 4$ br ise **IAEI kaç br'dir?**



- A) $\sqrt{6}$ B) $\frac{4\sqrt{6}}{3}$ C) $\frac{8\sqrt{6}}{3}$

D) $3\sqrt{6}$ E) $\frac{10\sqrt{6}}{3}$

19. Şekilde ABC nin O merkezli içteğet çemberi çizilmiştir.

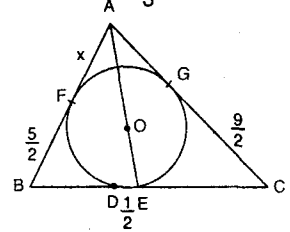
$IFBI = \frac{5}{2}$ br,

$IDEI = \frac{1}{2}$ br ve

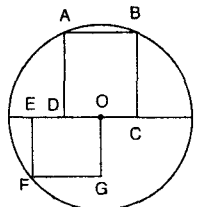
$IGCI = \frac{9}{2}$ br ise

IAFI = x kaç br'dir?

- A) 2 B) $\frac{5}{2}$ C) 3 D) $\frac{7}{2}$ E) 4



20. Şekilde O merkezli çember içinde ABCD ve EFGO kareleri çizilmiştir. **A(EFGO)** **A(ABCD)** **aşağıdakilerden hangisidir?**

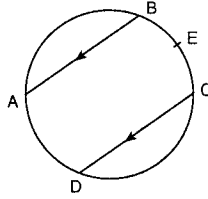


- A) 1 B) $\frac{3}{7}$ C) $\frac{1}{2}$ D) $\frac{5}{8}$ E) $\frac{3}{4}$

ÇEMBERDE TEĞET-KİRİŞ ÖZELLİKLERİ

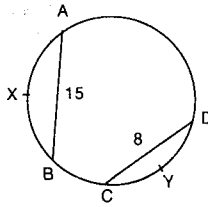
TEST 4

1. Şekilde $[AB] \parallel [DC]$,
 $IAB I = IDC I = 8\sqrt{2}$ br,
ve $m(\widehat{BEC}) = 90^\circ$ ise
çemberin yarıçapı kaç br'dir?



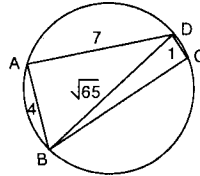
A) 4 B) 5 C) 6 D) 7 E) 8

2. Şekilde
 $m(\widehat{AXB}) + m(\widehat{CYD}) = 180^\circ$
 $IAB I = 15$ br ve $IDC I = 8$ br
ise **çemberin çapı kaç br'dir?**



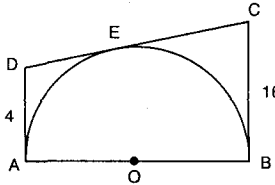
A) 40 B) 36 C) 34 D) 20 E) 17

3. Şekildeki ABCD kirişler
dörtgeninde $IAB I = 4$ br,
 $IAD I = 7$ br,
 $IDC I = 1$ br ve
 $IBD I = \sqrt{65}$ br ise **IBC I kaç br'dir?**



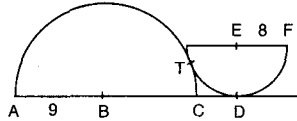
A) 8 B) 7.5 C) 7 D) 6.5 E) 6

4. Şekildeki $[AB]$ çaplı
yarım çemberde A,
B ve E teğetlerin
değme noktalarıdır.
 $IAD I = 4$ br,
 $IBC I = 16$ br ise
çemberin yarıçapı kaç br'dir?



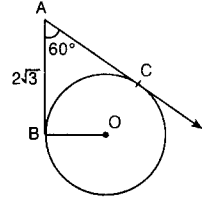
A) 12 B) 10 C) 9 D) 8 E) 7

5. Şekilde B ve E
merkezli yarım
daireler T nokta-
sında birbirlerine
teğettir. $IAB I = 9$
br ve $IEFI = 8$ br ise **ICDI kaç br'dir?**



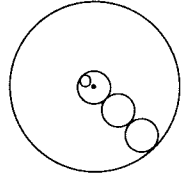
A) 5 B) 6 C) 7 D) 8 E) 9

6. Şekildeki O merkezli
çembere A noktasından
teğetler çizilmiştir.
 $m(\widehat{BAC}) = 60^\circ$ ve
 $IAB I = 2\sqrt{3}$ br ise **IOI kaç br'dir?**



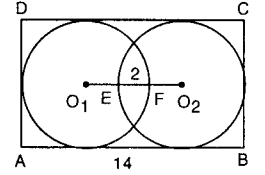
A) 2 B) 3 C) 4 D) 5 E) 6

7. Şekilde O merkezli çember
içine eş çemberler çizilmiştir.
İlk çemberin merkezi O ve
çemberlerin merkezleri
doğrusal ise **büyük çemberin
çapının küçük çemberlerin
yarıçapına oranı nedir?**



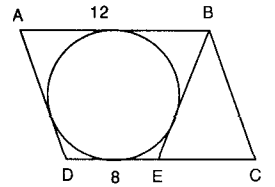
A) 12 B) 10 C) 9 D) 6 E) 5

8. Şekilde ABCD
dikdörtgen, O_1 ve O_2
çemberlerin
merkezleridir.
 $IAB I = 14$ br ve
 $IEFI = 2$ br ise
A(ABCD) kaç br² dir?



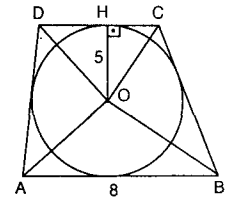
A) 56 B) 70 C) 84 D) 98 E) 112

9. Şekilde ABCD
paralelkenar, ABED
teğetler dörtgenidir.
 $IDEI = 8$ br ve
 $IAB I = 12$ br ise **Δ BEC
nin çevresi kaç br'-
dir?**



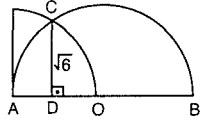
A) 18 B) 20 C) 24 D) 26 E) 30

10. Şekildeki ABCD dörtge-
ninin iç teğet çemberinin
merkezi O'dur.
 $IOHI = 5$ br, $IAB I = 8$ br ve
 $A(ABCD) = 60$ br² ise
IDC I kaç br'dir?



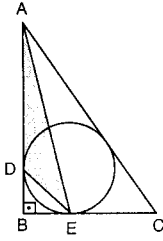
A) 5 B) 4 C) 3 D) 2 E) 1

11. Şekilde O merkezli yarım ve A merkezli çeyrek çemberler çizilmiştir. $[CD] \perp [AB]$ ve $ICDI = \sqrt{6}$ br ise **IABI kaç br'dir?**



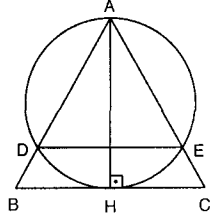
- A) $2\sqrt{2}$ B) 3 C) $2\sqrt{3}$ D) 4 E) $4\sqrt{2}$

12. Şekilde $\triangle ABC$ nin iç teğet çemberi çizilmiştir. $[AB] \perp [BC]$, $IABI = 8$ br, $IBCI = 6$ br ise **$A(\triangle ADE)$ kaç br² dir?**



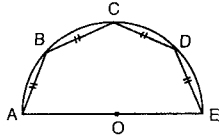
- A) 1 B) 2 C) 3 D) 4 E) 6

13. Şekilde ABC eşkenar üçgen $[AH] \perp [BC]$ ve $IBCI = 16$ br ise **IDEI kaç br'dir?**



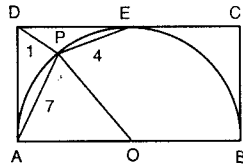
- A) 15 B) 12 C) 10 D) 8 E) 6

14. Şekilde $[AE]$ çaplı yarım çember içinde uzunlukları eşit dört kiriş çizilmiştir. $IAEI = 8$ br ise **$A(ABCDE)$ kaç br² dir?**



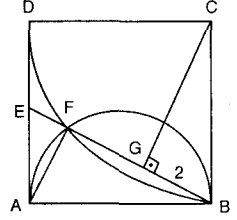
- A) 8 B) 12 C) $12\sqrt{2}$
D) 16 E) $16\sqrt{2}$

15. Şekildeki ABCD dikdörtgenin içinde çizilmiş yarım çemberin merkezi O'dur. $IPEI = 4$ br, $IDPI = 1$ br ve $IAP I = 7$ ise **IABI kaç br'dir?**



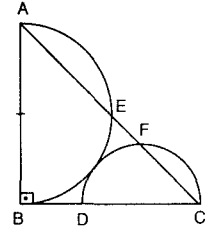
- A) 10 B) 12 C) 16 D) 18 E) 20

16. Şekildeki ABCD karesinin içine $[AB]$ çaplı yarım çember ve C merkezli çeyrek çember çizilmiştir. $IGBI = 2$ br ise **$A(ABCD)$ kaç br² dir?**



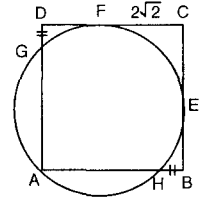
- A) 20 B) 24 C) 25 D) 28 E) 30

17. Şekilde merkezleri $\triangle ABC$ nin kenarları üzerinde bulunan yarım çemberler çizilmiştir. $IABI = IBCI = 18$ br ise **IEFI kaç br'dir?**



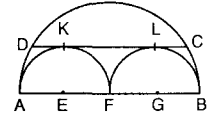
- A) $3\sqrt{2}$ B) $5\sqrt{2}$ C) $6\sqrt{2}$ D) $8\sqrt{2}$ E) $10\sqrt{2}$

18. Şekildeki ABCD karesinde $IDGI = IHBI$ ve $IFCI = 2\sqrt{2}$ br ise **IHBI kaç br'dir?**



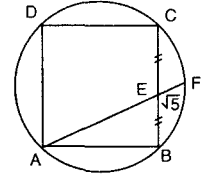
- A) $2-\sqrt{2}$ B) $\sqrt{2}-1$ C) $\sqrt{2}$
D) $3-2\sqrt{2}$ E) $2\sqrt{2}-2$

19. Şekilde E, F, G merkezli yarım çemberler çizilmiştir. **$\frac{IDKI}{IGBI}$ oranı nedir?**



- A) $\sqrt{2}-1$ B) $\sqrt{3}-1$ C) $2-\sqrt{3}$
D) $2-\sqrt{2}$ E) $2\sqrt{2}-1$

20. Şekilde ABCD kare, $IBEI = IECI$ ve $IEFI = \sqrt{5}$ br ise **çemberin yarıçapı kaç br'dir?**



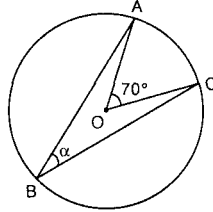
- A) $3\sqrt{2}$ B) $4\sqrt{2}$ C) $5\sqrt{2}$
D) $6\sqrt{2}$ E) 9

ÇEMBERDE AÇILAR VE YAYLAR

TEST

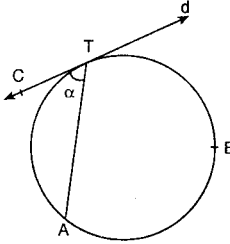
1

1. Şekildeki O merkezli çemberde; $m(\widehat{AOC}) = 70^\circ$ ise $m(\widehat{ABC}) = \alpha$ kaç derecedir?



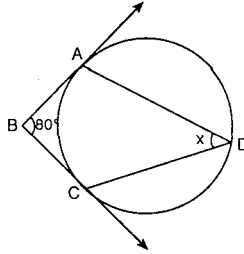
A) 30 B) 35 C) 40 D) 45 E) 50

2. Şekilde d doğrusu çembere T noktasında teğettir. $m(\widehat{TBA}) = 220^\circ$ ise $m(\widehat{CTA})$ kaç derecedir?



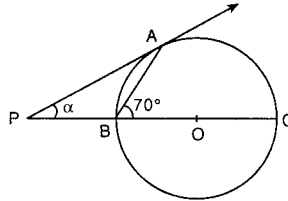
A) 110 B) 100 C) 90 D) 80 E) 70

3. Şekilde [BA ve [BC çembere teğettir. $m(\widehat{ABC}) = 80^\circ$ ise $m(\widehat{ADC}) = x$ kaç derecedir?



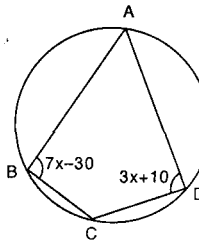
A) 40 B) 45 C) 50 D) 55 E) 60

4. Şekilde [PA, A noktasında O merkezli çembere teğettir. $m(\widehat{ABC}) = 70^\circ$ ise $m(\widehat{APC}) = \alpha$ kaç derecedir?



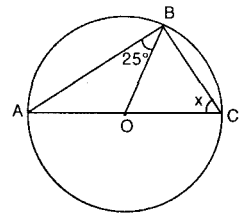
A) 50 B) 40 C) 30 D) 20 E) 10

5. Şekildeki ABCD kirişler dörtgeninde $m(\widehat{ABC}) = (7x - 30)^\circ$ ve $m(\widehat{ADC}) = (3x + 10)^\circ$ ise $m(\widehat{ABC})$ kaç derecedir?



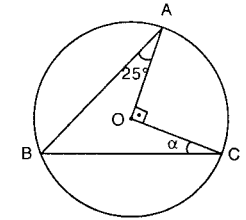
A) 80 B) 90 C) 100 D) 110 E) 120

6. Şekildeki O merkezli çemberde $m(\widehat{ABO}) = 25^\circ$ ise $m(\widehat{BCA}) = x$ kaç derecedir?



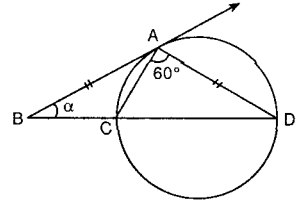
A) 50 B) 55 C) 60 D) 65 E) 70

7. Şekildeki O merkezli çemberde, $[AO] \perp [OC]$, $m(\widehat{BAO}) = 25^\circ$ ise $m(\widehat{OCB}) = \alpha$ kaç derecedir?



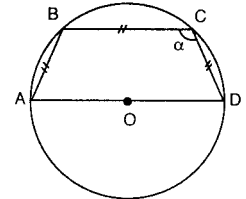
A) 10 B) 15 C) 20 D) 25 E) 30

8. Şekilde [BA çembere A'da teğettir. $IABI = IADI$ ve $m(\widehat{CAD}) = 60^\circ$ ise $m(\widehat{ABC}) = \alpha$ kaç derecedir?



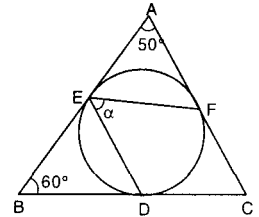
A) 30 B) 40 C) 50 D) 60 E) 70

9. Şekildeki [AD] çaplı çemberde; $IABI = IBCI = ICDI$ ise $m(\widehat{BCD}) = \alpha$ kaç derecedir?



A) 120 B) 125 C) 130 D) 135 E) 140

10. Şekilde $\triangle ABC$ nin iç teğet çemberi çizilmiştir. $m(\widehat{A}) = 50^\circ$ ve $m(\widehat{B}) = 60^\circ$ ise $m(\widehat{DEF}) = \alpha$ kaç derecedir?



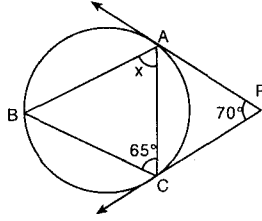
A) 70 B) 65 C) 60 D) 55 E) 50

11. Şekildeki çembere [PA ve [PC teğetleri çizilmiştir.

$$m(\widehat{APC}) = 70^\circ \text{ ve}$$

$$m(\widehat{BCA}) = 65^\circ \text{ ise}$$

$$m(\widehat{BAC}) = x \text{ kaç derecedir?}$$

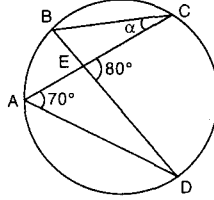


- A) 50 B) 55 C) 60 D) 65 E) 70

12. Şekilde $m(\widehat{CED}) = 80^\circ$

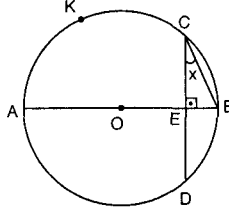
$$\text{ve } m(\widehat{CAD}) = 70^\circ \text{ ise}$$

$$m(\widehat{BAC}) = \alpha \text{ kaç derecedir?}$$



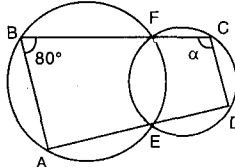
- A) 10 B) 15 C) 20 D) 25 E) 30

13. Şekildeki [AB] çaplı çemberde [AB] $\perp$ [DC] ve $m(\widehat{AKC}) = 140^\circ$ ise $m(\widehat{DCB}) = x$ kaç derecedir?



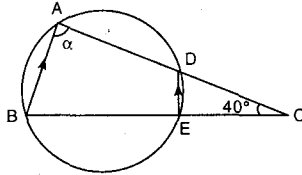
- A) 15 B) 20 C) 25 D) 30 E) 35

14. Şekildeki çemberler E ve F noktalarında kesişmektedir. $m(\widehat{ABC}) = 80^\circ$ ise $m(\widehat{DCB}) = \alpha$ kaç derecedir?



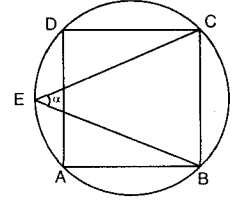
- A) 130 B) 120 C) 110 D) 100 E) 90

15. Şekilde [AB] $\parallel$ [DE] ve $m(\widehat{ACB}) = 40^\circ$ ise $m(\widehat{A}) = \alpha$ kaç derecedir?



- A) 40 B) 50 C) 60 D) 65 E) 70

16. Şekilde ABCD kare ise $m(\widehat{BEC}) = \alpha$ kaç derecedir?

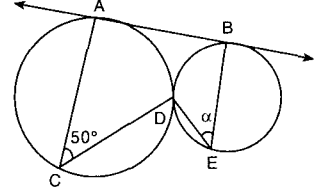


- A) 30 B) 35 C) 40 D) 45 E) 60

17. Şekilde dıştan teğet çemberlerin AB ortak teğeti çizilmiştir.

$$m(\widehat{ACD}) = 50^\circ \text{ ise}$$

$$m(\widehat{BED}) = \alpha \text{ kaç derecedir?}$$

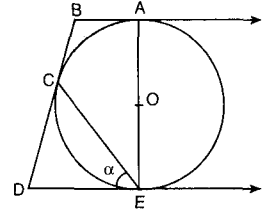


- A) 60 B) 55 C) 50 D) 45 E) 40

18. Şekildeki O merkezli çemberde A, C ve E teğetlerin değme noktalarıdır.

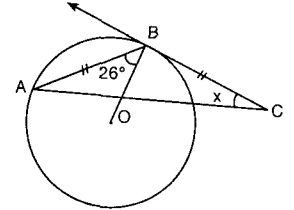
$$m(\widehat{ABD}) = 140^\circ \text{ ise}$$

$$m(\widehat{DEC}) = \alpha \text{ kaç derecedir?}$$



- A) 70 B) 60 C) 50 D) 40 E) 30

19. Şekilde [CB O merkezli çembere B'de teğettir. $|AB| = |BC|$ ve $m(\widehat{ABO}) = 26^\circ$ ise $m(\widehat{BCA}) = x$ kaç derecedir?



- A) 36 B) 32 C) 30 D) 28 E) 26

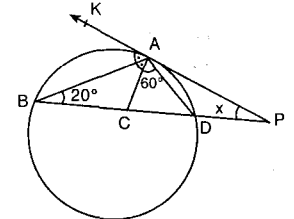
20. Şekilde [PA A'da çembere teğettir.

$$m(\widehat{BAK}) = m(\widehat{BAC}),$$

$$m(\widehat{ABP}) = 20^\circ \text{ ve}$$

$$m(\widehat{CAD}) = 60^\circ \text{ ise}$$

$$m(\widehat{APB}) = x \text{ kaç derecedir?}$$



- A) 10 B) 20 C) 30 D) 40 E) 50

ÇEMBERDE AÇILAR VE YAYLAR

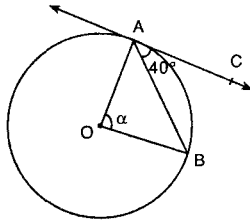
TEST

2

1. Şekildeki O merkezli çemberde A teğetin değme noktasıdır.

$$m(\widehat{BAC}) = 40^\circ \text{ ise}$$

$m(\widehat{AOB}) = \alpha$ kaç derecedir?

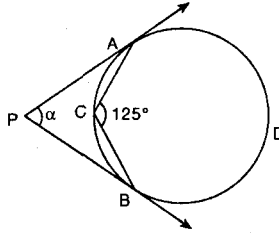


- A) 40 B) 60 C) 70 D) 80 E) 90

2. Şekildeki çembere P'den teğetler çizilmiştir.

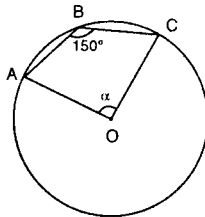
$$m(\widehat{ACB}) = 125^\circ \text{ ise}$$

$m(\widehat{APB}) = \alpha$ kaç derecedir?



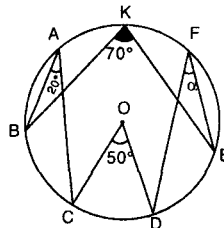
- A) 60 B) 65 C) 70 D) 75 E) 80

3. Şekildeki O merkezli çemberde $m(\widehat{ABC}) = 150^\circ$ ise $m(\widehat{AOC}) = \alpha$ kaç derecedir?



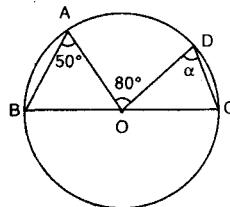
- A) 60 B) 45 C) 40 D) 35 E) 30

4. Şekildeki O merkezli çemberde $m(\widehat{A}) = 20^\circ$, $m(\widehat{K}) = 70^\circ$ ve $m(\widehat{O}) = 50^\circ$ ise $m(\widehat{F}) = \alpha$ kaç derecedir?



- A) 30 B) 25 C) 20 D) 15 E) 10

5. Şekilde [BC] çap, $m(\widehat{A}) = 50^\circ$ ve $m(\widehat{AOD}) = 80^\circ$ ise $m(\widehat{D}) = \alpha$ kaç derecedir?



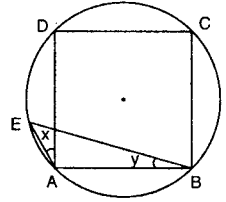
- A) 40 B) 50 C) 60 D) 70 E) 80

6. Şekilde ABCD karesinin çevrel çemberi çizilmiştir.

$$m(\widehat{DAE}) = x^\circ$$

$$m(\widehat{ABE}) = y^\circ \text{ dir.}$$

Buna göre $x + y$ kaç derecedir?



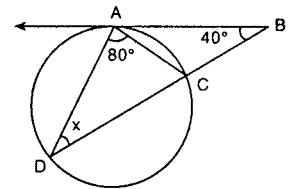
- A) 15 B) 20 C) 22,5 D) 30 E) 45

7. Şekilde [BA A noktasında çembere teğettir.

$$m(\widehat{DAC}) = 80^\circ \text{ ve}$$

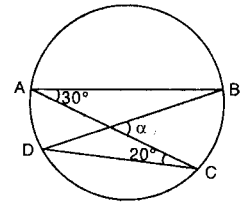
$$m(\widehat{B}) = 40^\circ \text{ ise}$$

$m(\widehat{D}) = x$ kaç derecedir?



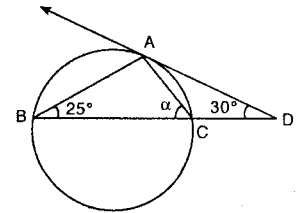
- A) 25 B) 30 C) 35 D) 40 E) 45

8. Şekilde $m(\widehat{A}) = 30^\circ$ ve $m(\widehat{C}) = 20^\circ$ ise $m(\widehat{BEC}) = \alpha$ kaç derecedir?



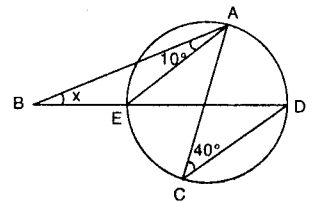
- A) 20 B) 30 C) 40 D) 50 E) 60

9. Şekilde A teğetin değme noktası, $m(\widehat{B}) = 25^\circ$ ve $m(\widehat{D}) = 30^\circ$ ise $m(\widehat{ACB}) = \alpha$ kaç derecedir?



- A) 55 B) 50 C) 45 D) 40 E) 35

10. Şekilde $m(\widehat{BAE}) = 10^\circ$ ve $m(\widehat{C}) = 40^\circ$ ise $m(\widehat{ABD}) = x$ kaç derecedir?



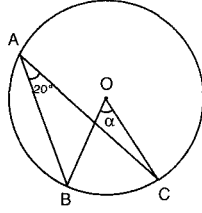
- A) 10 B) 15 C) 20 D) 25 E) 30

ZAFER YAYINLARI

ÇEMBERDE AÇILAR VE YAYLAR

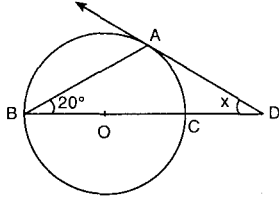
TEST 3

1. Şekildeki O merkezli çemberde $m(\hat{A}) = 20^\circ$ ise $m(\hat{O}) = \alpha$ kaç derecedir?



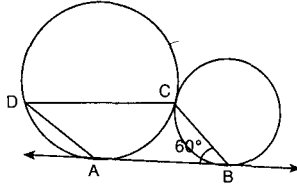
A) 20 B) 25 C) 30 D) 35 E) 40

2. Şekildeki O merkezli çember A noktasında [DA] ya teğettir $m(\hat{B}) = 20^\circ$ ise $m(\hat{D}) = x$ kaç derecedir?



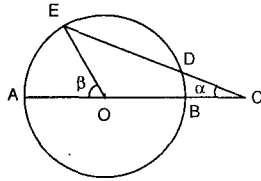
A) 50 B) 45 C) 20 D) 25 E) 20

3. Şekilde C noktasında birbirine teğet çemberlerin AB ortak teğeti verilmiştir. $m(\hat{ABC}) = 60^\circ$ ise $m(\hat{ADC})$ kaç derecedir?



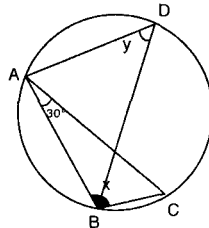
A) 60 B) 50 C) 40 D) 30 E) 20

4. Şekildeki O merkezli çemberde $IAOI = IDCI$, $m(\hat{C}) = \alpha$ ve $m(\hat{AOE}) = \beta$ ise $\frac{\beta}{\alpha}$ nedir?



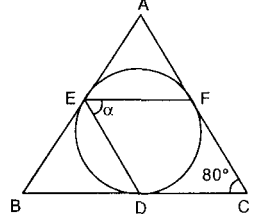
A) 1 B) 2 C) 3 D) 4 E) 5

5. Şekildeki çemberde $m(\hat{BAC}) = 30^\circ$, $m(\hat{ABC}) = x$ ve $m(\hat{ADB}) = y$ ise $x + y$ kaç derecedir?



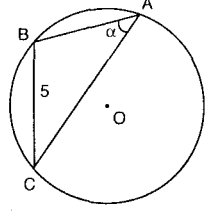
A) 165 B) 150 C) 120 D) 90 E) 60

6. Şekilde $\triangle ABC$ nin iç teğet çemberi çizilmiştir. $m(\hat{C}) = 80^\circ$ ise $m(\hat{DEF}) = \alpha$ kaç derecedir?



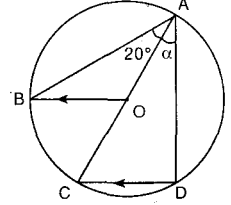
A) 40 B) 50 C) 60 D) 70 E) 80

7. Şekildeki 5 br yarıçaplı O merkezli çemberde $IBC I = 5$ br ise $m(\hat{BAC}) = \alpha$ kaç derecedir?



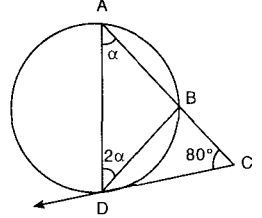
A) 22,5 B) 30 C) 36 D) 42 E) 45

8. Şekildeki O merkezli çemberde $[OB] \parallel [DC]$ ve $m(\hat{BAC}) = 20^\circ$ ise $m(\hat{CAD}) = \alpha$ kaç derecedir?



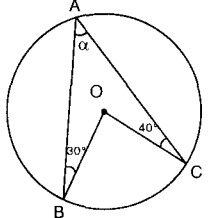
A) 20 B) 30 C) 40 D) 50 E) 60

9. Şekilde $[CD]$ D de çembere teğettir. $m(\hat{ADB}) = 2\alpha$, $m(\hat{A}) = \alpha$ ve $m(\hat{ACD}) = 80^\circ$ ise α kaç derecedir?



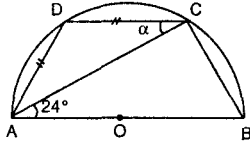
A) 25 B) 30 C) 36 D) 40 E) 45

10. Şekilde O merkezli çemberde $m(\hat{B}) = 30^\circ$, $m(\hat{C}) = 40^\circ$ ise $m(\hat{A}) = \alpha$ kaç derecedir?



A) 30 B) 35 C) 40 D) 50 E) 70

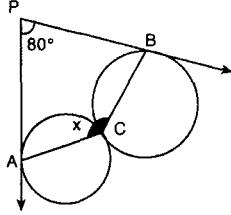
11. Şekildeki $[AB]$ çaplı yarım çemberde $m(\hat{CAB}) = 24^\circ$ ve $IAD = IDC$ ise



$m(\hat{DCA}) = \alpha$ kaç derecedir?

- A) 24 B) 30 C) 33 D) 36 E) 48

12. Şekilde C'de birbirlerine teğet çemberlere P'den teğetler verilmiştir.

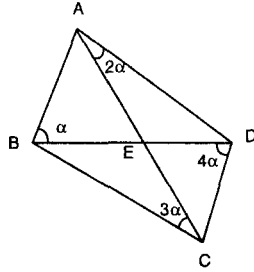


$m(\hat{APB}) = 80^\circ$ ise

$m(\hat{ACB}) = x$ kaç derecedir?

- A) 150 B) 140 C) 130 D) 120 E) 100

13. Şekildeki ABCD kirişler dörtgenidir.



$m(\hat{DBA}) = \alpha$,

$m(\hat{CAD}) = 2\alpha$,

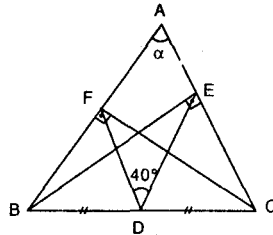
$m(\hat{ACB}) = 3\alpha$ ve

$m(\hat{BDC}) = 4\alpha$

ise $m(\hat{AEB})$ kaç derecedir?

- A) 90 B) 85 C) 80 D) 75 E) 70

14. Şekildeki $\triangle ABC$ de $[BE] \perp [AC]$, $[CF] \perp [AB]$,



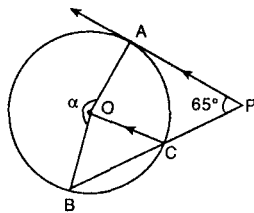
$m(\hat{FDE}) = 40^\circ$ ve

$IBDI = IDC$ ise

$m(\hat{BAC}) = \alpha$ kaç derecedir?

- A) 40 B) 50 C) 60 D) 70 E) 80

15. Şekildeki O merkezli çember A'da $[PA]$ ya teğettir. $[OC] \parallel [PA]$ ve $m(\angle APB) = 65^\circ$ ise $m(\hat{AOB}) = \alpha$ kaç derecedir?

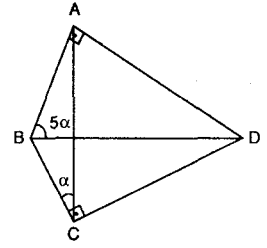


- A) 200 B) 205 C) 210 D) 215 E) 220

16. Şekilde $[BA] \perp [AD]$ $[BC] \perp [CD]$,

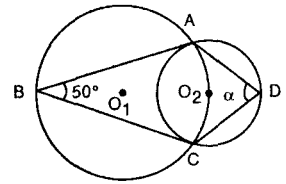
$m(\hat{ABD}) = 5\alpha$ ve

$m(\hat{BCA}) = \alpha$ ise α kaç derecedir?



- A) 15 B) 20 C) 25 D) 30 E) 35

17. Şekildeki O_1 ve O_2 merkezli çemberlerde

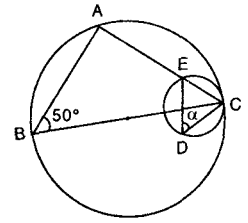


$m(\hat{ABC}) = 50^\circ$ ise

$m(\hat{ADC}) = \alpha$ kaç derecedir?

- A) 55 B) 60 C) 65 D) 70 E) 80

18. Şekildeki çemberler C'de birbirlerine teğettir.

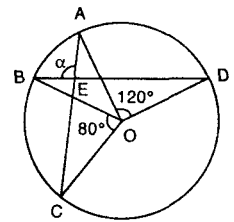


$m(\hat{ABC}) = 50^\circ$ ise

$m(\hat{EDC}) = \alpha$ kaç derecedir?

- A) 40 B) 45 C) 50 D) 55 E) 65

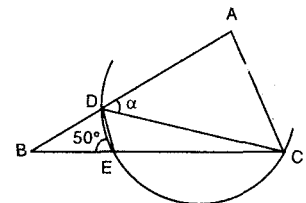
19. Şekildeki O merkezli çemberde, $m(\hat{AOD}) = 120^\circ$ ve $m(\hat{BOC}) = 80^\circ$ ise



$m(\hat{AEB}) = \alpha$ kaç derecedir?

- A) 120 B) 115 C) 110 D) 105 E) 80

20. Şekilde A merkezli çember yayı çizilmiştir.

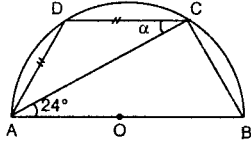


$m(\hat{DEB}) = 50^\circ$ ise

$m(\hat{ADC}) = \alpha$ kaç derecedir?

- A) 40 B) 50 C) 55 D) 60 E) 65

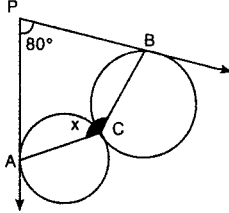
11. Şekildeki $[AB]$ çaplı yarım çemberde $m(\widehat{CAB}) = 24^\circ$ ve $IAI = IDC$ ise



$m(\widehat{DCA}) = \alpha$ kaç derecedir?

- A) 24 B) 30 C) 33 D) 36 E) 48

12. Şekilde C'de birbirlerine teğet çemberlere P'den teğetler verilmiştir.

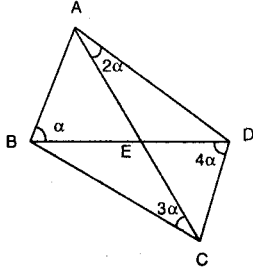


$m(\widehat{APB}) = 80^\circ$ ise

$m(\widehat{ACB}) = x$ kaç derecedir?

- A) 150 B) 140 C) 130 D) 120 E) 100

13. Şekildeki ABCD kirişler dörtgenidir.



$m(\widehat{DBA}) = \alpha$,

$m(\widehat{CAD}) = 2\alpha$,

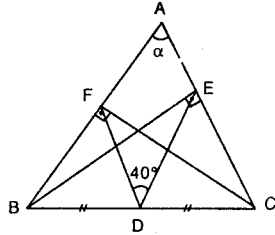
$m(\widehat{ACB}) = 3\alpha$ ve

$m(\widehat{BDC}) = 4\alpha$

ise $m(\widehat{AEB})$ kaç derecedir?

- A) 90 B) 85 C) 80 D) 75 E) 70

14. Şekildeki $\triangle ABC$ de $[BE] \perp [AC]$, $[CF] \perp [AB]$,



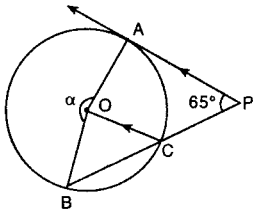
$m(\widehat{FDE}) = 40^\circ$ ve

$IBI = IDC$ ise

$m(\widehat{BAC}) = \alpha$ kaç derecedir?

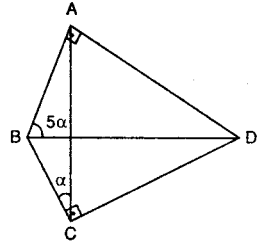
- A) 40 B) 50 C) 60 D) 70 E) 80

15. Şekildeki O merkezli çember A'da $[PA]$ ya teğettir. $[OC] \parallel [PA]$ ve $m(\angle APB) = 65^\circ$ ise $m(\widehat{AOB}) = \alpha$ kaç derecedir?



- A) 200 B) 205 C) 210 D) 215 E) 220

16. Şekilde $[BA] \perp [AD]$, $[BC] \perp [CD]$,

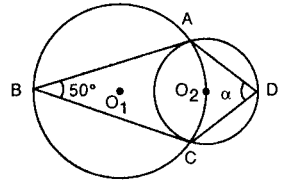


$m(\widehat{ABD}) = 5\alpha$ ve

$m(\widehat{BCA}) = \alpha$ ise α kaç derecedir?

- A) 15 B) 20 C) 25 D) 30 E) 35

17. Şekildeki O_1 ve O_2 merkezli çemberlerde

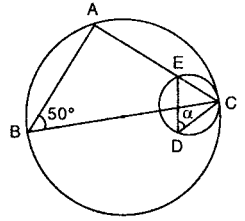


$m(\widehat{ABC}) = 50^\circ$ ise

$m(\widehat{ADC}) = \alpha$ kaç derecedir?

- A) 55 B) 60 C) 65 D) 70 E) 80

18. Şekildeki çemberler C'de birbirlerine teğettir.

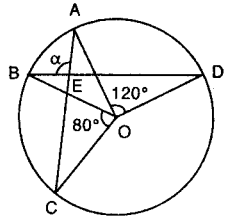


$m(\widehat{ABC}) = 50^\circ$ ise

$m(\widehat{EDC}) = \alpha$ kaç derecedir?

- A) 40 B) 45 C) 50 D) 55 E) 65

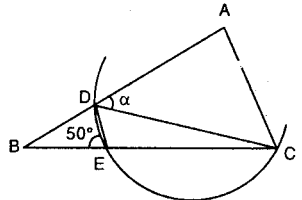
19. Şekildeki O merkezli çemberde, $m(\widehat{AOD}) = 120^\circ$ ve $m(\widehat{BOC}) = 80^\circ$ ise



$m(\widehat{AEB}) = \alpha$ kaç derecedir?

- A) 120 B) 115 C) 110 D) 105 E) 80

20. Şekilde A merkezli çember yayı çizilmiştir.



$m(\widehat{DEB}) = 50^\circ$ ise

$m(\widehat{ADC}) = \alpha$ kaç derecedir?

- A) 40 B) 50 C) 55 D) 60 E) 65

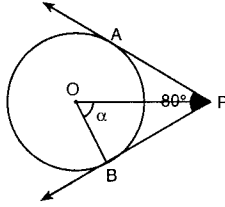
ÇEMBERDE AÇILAR VE YAYLAR

TEST 4

1. Şekildeki O merkezli çemberde [PA ve [PB teğetleri verilmiştir.

$$m(\widehat{APB}) = 80^\circ \text{ ise}$$

$m(\widehat{POB}) = \alpha$ kaç derecedir?



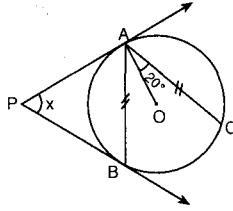
- A) 80 B) 70 C) 60 D) 50 E) 40

2. Şekilde A ve B O merkezli çemberin teğetleri değme noktalarıdır.

$$m(\widehat{OAC}) = 20^\circ \text{ ve}$$

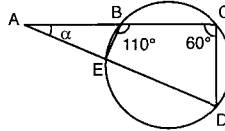
$$|AB| = |AC| \text{ ise}$$

$m(\widehat{APB}) = x$ kaç derecedir?



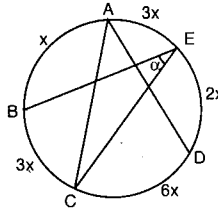
- A) 20 B) 30 C) 40 D) 50 E) 60

3. Şekilde $m(\widehat{EBC}) = 110^\circ$ ve $m(\widehat{ACD}) = 60^\circ$ ise $m(\widehat{DAC}) = \alpha$ kaç derecedir?



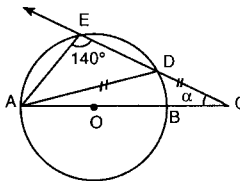
- A) 50 B) 40 C) 30 D) 20 E) 10

4. Şekilde $m(\widehat{AB}) = x$ $m(\widehat{BC}) = 3x$ $m(\widehat{CD}) = 6x$ $m(\widehat{DE}) = 2x$ ve $m(\widehat{EA}) = 3x$ ise $m(\widehat{BEC}) = \alpha$ kaç derecedir?



- A) 48 B) 36 C) 32 D) 30 E) 24

5. Şekildeki O merkezli çemberde $m(\widehat{AEC}) = 140^\circ$ ve $|AD| = |DC|$ ise $m(\widehat{ACE}) = \alpha$ kaç derecedir?



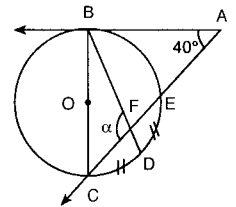
- A) 30 B) 35 C) 40 D) 45 E) 50

6. Şekilde [AB O merkezli çembere B de teğettir.

$$m(\widehat{BAC}) = 40^\circ \text{ ve}$$

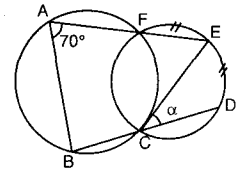
$$|CD| = |DE| \text{ ise}$$

$m(\widehat{BFC}) = \alpha$ kaç derecedir?



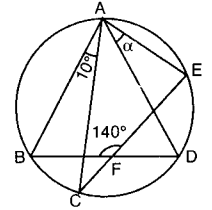
- A) 100 B) 110 C) 120 D) 130 E) 140

7. Şekilde $m(\widehat{EAB}) = 70^\circ$ ve $|FE| = |ED|$ ise $m(\widehat{ECD}) = \alpha$ kaç derecedir?



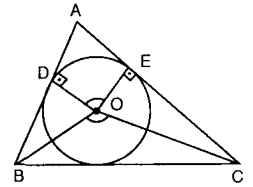
- A) 24 B) 28 C) 30 D) 35 E) 40

8. Şekilde $m(\widehat{BAC}) = 10^\circ$ ve $m(\widehat{BFE}) = 140^\circ$ ise $m(\widehat{DAE}) = \alpha$ kaç derecedir?



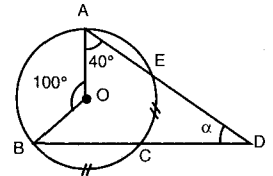
- A) 15 B) 16 C) 20 D) 24 E) 30

9. Şekildeki O merkezli çember ABC nin içteğet çemberidir. $[OD] \perp [AB]$, $[OE] \perp [AC]$ ve $m(\widehat{DOE}) = 140^\circ$ ise $m(\widehat{BOC})$ kaç derecedir?



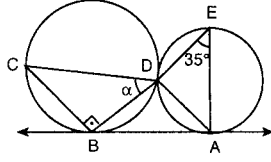
- A) 110 B) 120 C) 130 D) 135 E) 140

10. Şekildeki O merkezli çemberde $m(\widehat{AOB}) = 100^\circ$, $m(\widehat{OAD}) = 40^\circ$ ve $|EC| = |CB|$ ise $m(\widehat{ADB}) = \alpha$ kaç derecedir?



- A) 10 B) 15 C) 20 D) 25 E) 30

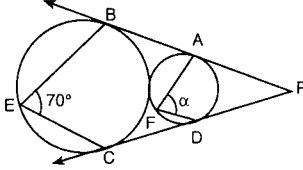
11. Şekilde D noktasında dıştan teğet çemberlerin AB ortak teğeti verilmiştir. $[CB] \perp [DB]$ ve



$m(\hat{DEA}) = 35^\circ$ ise $m(\hat{CDB}) = \alpha$ kaç derecedir?

- A) 30 B) 35 C) 45 D) 50 E) 55

12. Şekilde A, B, C, D çemberlerin teğetlerinin değme noktalarıdır.



$m(\hat{BEC}) = 70^\circ$

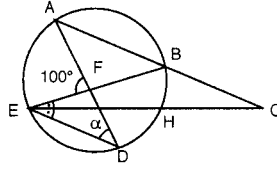
ise $m(\hat{AFD})$ kaç derecedir?

- A) 20 B) 40 C) 55 D) 70 E) 110

13. Şekilde $[EC]$ açortay,

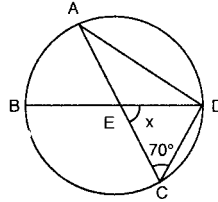
$m(\hat{BED}) = 2m(\hat{ACE})$

ise $m(\hat{ADE}) = \alpha$ kaç derecedir?



- A) 40 B) 45 C) 50 D) 60 E) 75

14. Şekilde $[BD]$ çaplı çemberde $IACI = IADI$ ve $m(\hat{ACD}) = 70^\circ$ ise $m(\hat{DEC}) = x$ kaç derecedir?



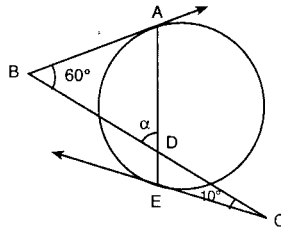
- A) 60 B) 55 C) 50 D) 45 E) 40

15. Şekildeki çembere $[BA]$ ve $[CE]$ teğetleri çizilmiştir.

$m(\hat{ABC}) = 60^\circ$ ve

$m(\hat{BCE}) = 10^\circ$ ise

$m(\hat{ADB}) = \alpha$ kaç derecedir?



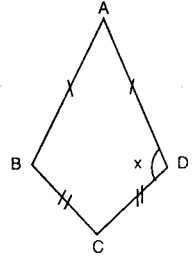
- A) 70 B) 65 C) 60 D) 55 E) 50

16. Şekilde ABCD kirişler dörtgenidir.

$IABI = IADI$ ve

$IBCI = ICDI$ ise

$m(\hat{ADC}) = x$ kaç derecedir?



- A) 60 B) 75 C) 90 D) 105 E) 120

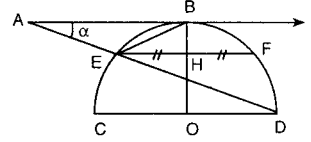
17. Şekildeki O merkezli çemberde

$[AB] \parallel [CD]$,

$IEHI = IHFI$ ve

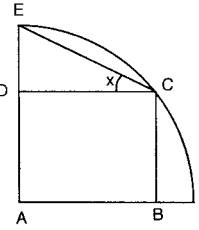
$2IBEI = ICDI$ ise

$m(\hat{BAD}) = \alpha$ kaç derecedir?



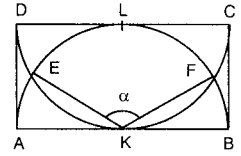
- A) 15 B) 20 C) 22,5 D) 30 E) 36

18. Şekilde O merkezli çeyrek çember içine ABCD karesi çizilmiştir. $m(\hat{DCE})$ kaç derecedir?



- A) 15 B) 22,5 C) 25 D) 30 E) 45

19. Şekilde ABCD dikdörtgeninin kenarlarına teğet yarım çemberler verilmiştir.

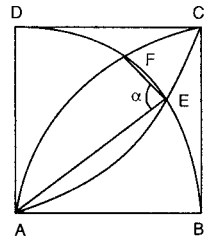


$m(\hat{EKF}) = \alpha$ kaç derecedir?

- A) 100 B) 105 C) 120 D) 135 E) 175

20. Şekildeki ABCD karesinde A, B, D merkezli çember yayları verilmiştir.

$m(\hat{AEF}) = \alpha$ kaç derecedir?



- A) 30 B) 45 C) 67,5 D) 75 E) 90

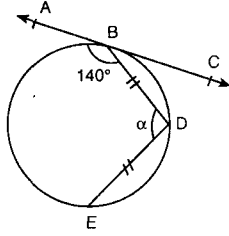
ÇEMBERDE AÇILAR VE YAYLAR

TEST 5

1. Şekilde

$m(\widehat{ABD}) = 140^\circ$ ve
 $IBDI = IDEI$ ise

$m(\widehat{BDE}) = \alpha$ kaç
derecedir?

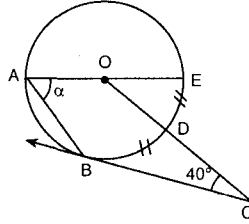


A) 100 B) 110 C) 120 D) 135 E) 150

2. Şekildeki O merkezli
çemberde,

$IBDI = IDEI$ ve
 $m(\widehat{OCB}) = 40^\circ$ ise

$m(\widehat{BAE}) = \alpha$ kaç
derecedir?

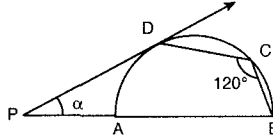


A) 40 B) 50 C) 60 D) 70 E) 80

3. Şekilde [AB] çaplı
çemberde [PD] te-
ğeti verilmiştir.

$m(\widehat{BCD}) = 120^\circ$

ise $m(\widehat{DPB}) = \alpha$ kaç
derecedir?



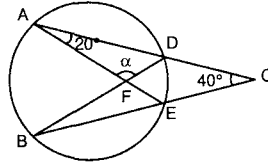
A) 20 B) 25 C) 30 D) 45 E) 60

4. Şekilde

$m(\widehat{EAC}) = 20^\circ$

ve $m(\widehat{ACB}) = 40^\circ$ ise

$m(\widehat{AFD}) = \alpha$ kaç de-
recedir?



A) 70 B) 80 C) 90 D) 100 E) 110

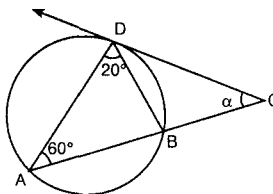
5. Şekilde

[CD] teğet,

$m(\widehat{DAB}) = 60^\circ$

ve $m(\widehat{ADB}) = 20^\circ$

ise $m(\widehat{ACD}) = \alpha$ kaç
derecedir?



A) 60 B) 55 C) 50 D) 45 E) 40

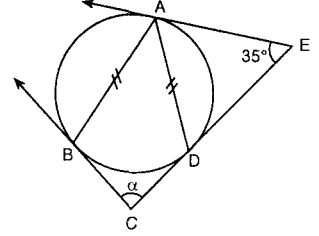
6.

Şekilde

A, B, D teğetlerin
değme
noktalarıdır.

$m(\widehat{AEC}) = 35^\circ$ ve
 $IABI = IADI$ ise

$m(\widehat{BCE}) = \alpha$ kaç
derecedir?

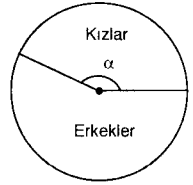


A) 100 B) 110 C) 120 D) 130 E) 135

7.

Bir okuldaki kızların sayısının
erkeklerin sayısına oranı $\frac{7}{8}$

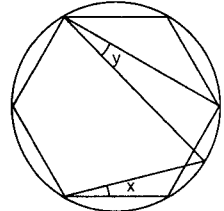
olarak veriliyor. Bu okuldaki
kız ve erkeklerin payını
gösteren grafikte kızların
payına düşen merkez açı
kaç derecedir?



A) 147 B) 154 C) 161 D) 168 E) 175

8.

Şekildeki düzgün altıgenin
çevrel çemberi verilmiştir.
 $x + y$ kaç derecedir?

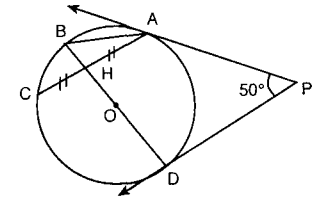


A) 20 B) 24 C) 30 D) 36 E) 45

9.

Şekilde P
noktasından O
merkezli çembere
[PA ve [PD
teğetleri
çizilmiştir.

$m(\widehat{APD}) = 50^\circ$ ve
 $ICHI = IAH I$ ise $m(\widehat{BAC})$ kaç derecedir?



A) 65 B) 55 C) 50 D) 35 E) 25

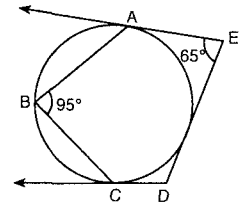
10.

Şekilde

$m(\widehat{AED}) = 65^\circ$ ve

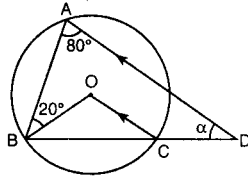
$m(\widehat{ABC}) = 95^\circ$ ise

$m(\widehat{EDC})$ kaç derece-
dir?



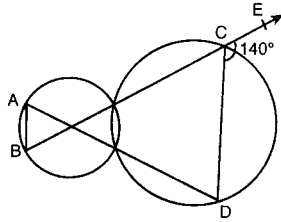
A) 105 B) 110 C) 120 E) 125 E) 130

11. Şekildeki O merkezli çemberde
[OC] // [AD],
 $m(\widehat{BAD}) = 80^\circ$ ve
 $m(\widehat{ABO}) = 20^\circ$ ise
 $m(\widehat{BDA}) = \alpha$ kaç derecedir?



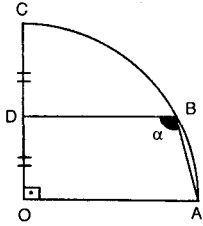
A) 25 B) 30 C) 36 D) 40 E) 45

12. Şekilde
 $m(\widehat{DCE}) = 140^\circ$
ise $m(\widehat{ABE})$ kaç derecedir?



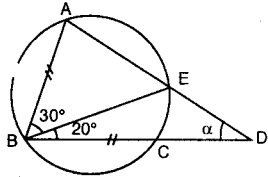
A) 70 B) 60 C) 50 D) 45 E) 40

13. Şekildeki O merkezli çeyrek çemberde
ICDI = IDOI ise
 $m(\widehat{DBA}) = \alpha$ kaç derecedir?



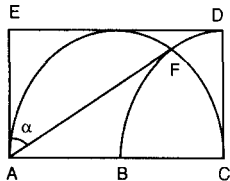
A) 100 B) 105 C) 120 D) 135 E) 150

14. Şekilde
 $m(\widehat{ABE}) = 30^\circ$,
 $m(\widehat{EBD}) = 20^\circ$ ve
IABI = IBCI ise
 $m(\widehat{D}) = \alpha$ kaç derecedir?



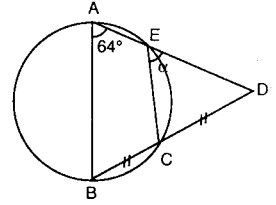
A) 25 B) 35 C) 45 E) 55 E) 65

15. Şekildeki ACDE dikdörtgeninin içine B ve C merkezli çember yayları çizilmiştir.
 $m(\widehat{EAD}) = \alpha$ kaç derecedir?



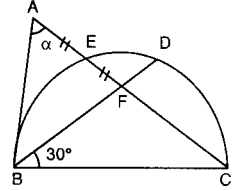
A) 60 B) 50 C) 45 D) 40 E) 30

16. Şekildeki [AB] çaplı çemberde
 $m(\widehat{BAD}) = 64^\circ$ ve
IBCI = ICDI ise
 $m(\widehat{CED}) = \alpha$ kaç derecedir?



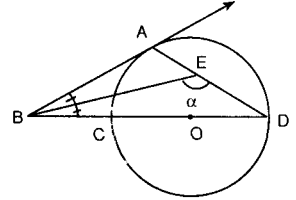
A) 56 B) 58 C) 63 D) 64 E) 68

17. Şekildeki [BC] çaplı çemberde
 $m(\widehat{DBC}) = 30^\circ$,
IAEI = IEFI ve
IACI = IBCI ise
 $m(\widehat{BAC}) = \alpha$ kaç derecedir?



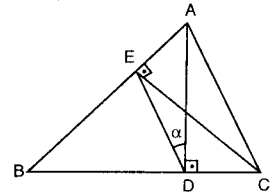
A) 54 B) 60 C) 64 D) 70 E) 72

18. Şekildeki O merkezli çembere [BA teğettir.
[BE açıortay oldu-
ğuna göre
 $m(\widehat{BED}) = \alpha$ kaç derecedir?



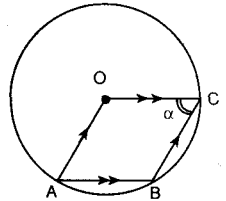
A) 105 B) 120 C) 125 D) 130 E) 135

19. Şekilde
[AD] ⊥ [BC],
[CE] ⊥ [AB] ve
 $m(\widehat{BAC}) = 80^\circ$ ise
 $m(\widehat{EDA}) = \alpha$ kaç derecedir?



A) 10 B) 15 C) 20 D) 25 E) 30

20. O merkezli çemberde
[OA] // [BC]
[AB] // [OC] ise
 $m(\widehat{OCB}) = \alpha$ kaç derecedir?



A) 40 B) 45 C) 50 D) 55 E) 60

ÇEMBERDE AÇILAR VE YAYLAR

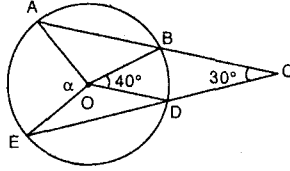
TEST 6

1. Şekildeki O merkezli çemberde

$$m(\widehat{ACE}) = 30^\circ \text{ ve}$$

$$m(\widehat{BOD}) = 40^\circ \text{ ise}$$

$m(\widehat{AOE}) = \alpha$ kaç derecedir?

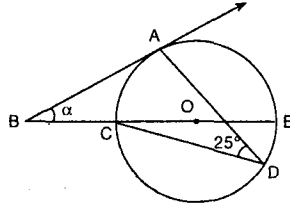


- A) 80 B) 90 C) 100 D) 110 E) 120

2. Şekilde [BA O merkezli çembere teğettir.

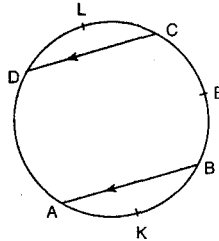
$$m(\widehat{ADC}) = 25^\circ \text{ ise}$$

$m(\widehat{ABE}) = \alpha$ kaç derecedir?



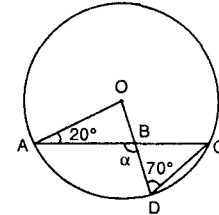
- A) 25 B) 30 C) 35 D) 40 E) 50

3. Şekilde [DC] // [AB],
 $m(\widehat{DLC}) = (3x - 60)^\circ$,
 $m(\widehat{AKB}) = (2x + 20)^\circ$ ve
 $m(\widehat{BCE}) = 100^\circ$ ise x kaçtır?



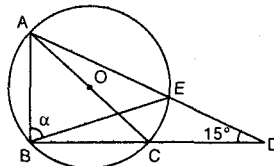
- A) 40 B) 50 C) 60 D) 70 E) 80

4. Şekildeki O merkezli çemberde, $m(\widehat{OAC}) = 20^\circ$ ve $m(\widehat{ODC}) = 70^\circ$ ise $m(\widehat{ABD})$ kaç derecedir?



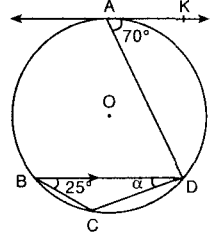
- A) 80 B) 90 C) 100 D) 110 E) 120

5. Şekildeki O merkezli çemberde
 $m(\widehat{ADB}) = 15^\circ$ ve
 $IACI = ICDI$ ise
 $m(\widehat{ABE}) = \alpha$ kaç derecedir?



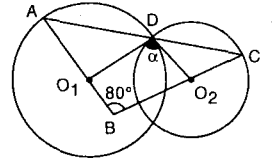
- A) 80 B) 75 C) 70 D) 65 E) 60

6. Şekilde [AK] // [BD],
 $m(\widehat{KAD}) = 70^\circ$ ve
 $m(\widehat{DBC}) = 25^\circ$ ise
 $m(\widehat{BDC}) = \alpha$ kaç derecedir?



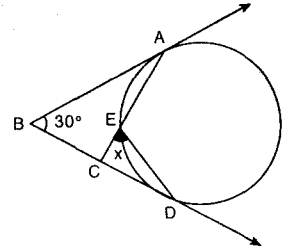
- A) 10 B) 15 C) 20 D) 25 E) 30

7. Şekildeki O_1 ve O_2 merkezli çemberlerde
 $m(\widehat{ABC}) = 80^\circ$ ise
 $m(\widehat{O_1DO_2}) = \alpha$ kaç derecedir?



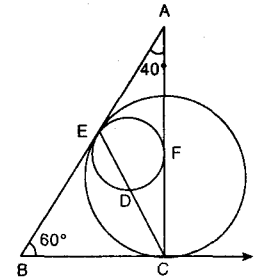
- A) 80 B) 90 C) 100 D) 110 E) 120

8. Şekildeki çembere [BA ve [BD teğetleri çizilmiştir.
 $m(\widehat{ABD}) = 30^\circ$ ise
 $m(\widehat{CED}) = x$ kaç derecedir?



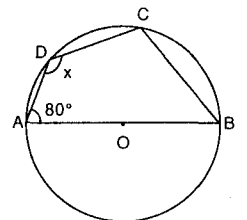
- A) 45 B) 50 C) 60 D) 75 E) 90

9. Şekilde $m(\widehat{ABC}) = 60^\circ$, E teğet noktası ve $m(\widehat{BAC}) = 40^\circ$ ise DF yayının ölçüsü kaç derecedir?



- A) 80 B) 90 C) 100 D) 110 E) 120

10. O merkezli çemberde $IADI = IDC I$
 $m(\widehat{DAB}) = 80^\circ$ ise
 $m(\widehat{ADC}) = x$ kaç derecedir?



- A) 160 B) 150 C) 145 D) 140 E) 100

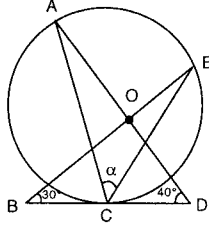
11. Şekilde [BD] C noktasında O merkezli çembere teğettir.

$$m(\hat{A}DB) = 40^\circ \text{ ve}$$

$$m(\hat{E}BD) = 30^\circ \text{ ise}$$

$m(\hat{ACE}) = \alpha$ kaç derecedir?

- A) 45 B) 50 C) 55 D) 60 E) 65

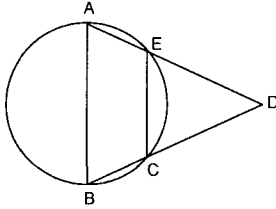


12. Şekildeki [AB] çaplı çemberde

$$2|CE| = \sqrt{3} |AB| \text{ ise}$$

$m(\hat{D})$ kaç derecedir?

- A) 15 B) 22,5 C) 25 D) 30 E) 40



13. Şekilde [AB] $\perp$ [BC],

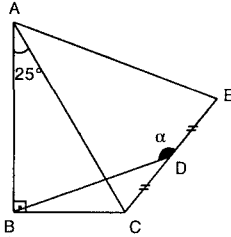
$$m(\hat{B}AC) = 25^\circ,$$

$$|AC| = |AE| \text{ ve}$$

$$|CD| = |DE| \text{ ise}$$

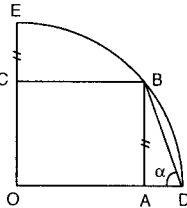
$m(\hat{B}DE) = \alpha$ kaç derecedir?

- A) 165 B) 155 C) 150 E) 135 E) 130



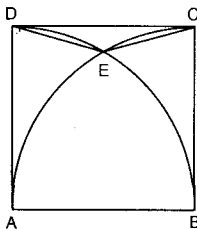
14. Şekildeki O merkezli çember yayında OABC dikdörtgen ve $|IE| = |AB|$ ise $m(\hat{O}DB) = \alpha$ kaç derecedir?

- A) 75 B) 67.5 C) 60 D) 45 E) 30



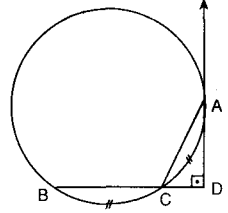
15. Şekildeki ABCD karesinde A ve B merkezli çember yayları verilmiştir. $m(\hat{D}EC)$ kaç derecedir?

- A) 105 B) 120 C) 130 D) 140 E) 150



16. Şekildeki çemberde [DA] A noktasında teğet, $[BD] \perp [DA]$ ve $|BC| = |AC|$ ise $m(\hat{CAD})$ kaç derecedir?

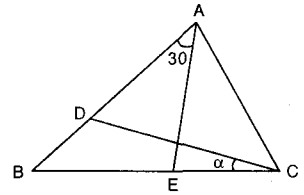
- A) 20 B) 30 C) 45 D) 50 E) 60



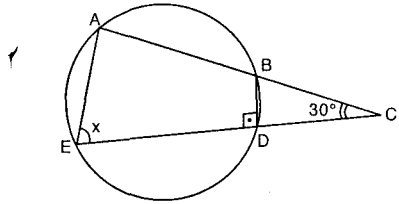
17. Şekildeki $\triangle ABC$ de $|AD| = |AE| = |AC|$ ve $m(\hat{BAE}) = 30^\circ$

ise $m(\hat{DCB}) = \alpha$ kaç derecedir?

- A) 15 B) 20 C) 25 D) 30 E) 35



- 18.



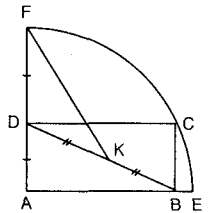
Şekilde $[BD] \perp [EC]$ ve $m(\hat{ACE}) = 30^\circ$ ise

$m(\hat{AEC}) = x$ kaç derecedir?

- A) 35 B) 40 C) 45 D) 50 E) 60

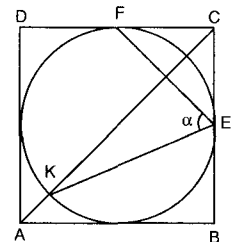
19. Şekildeki A merkezli çember yayında ABCD dikdörtgen, $|IFDI| = |IDAI|$ ve $|IDKI| = |IKBI|$ ise $m(\hat{DKF})$ kaç derecedir?

- A) 15 B) 20 C) 25 D) 30 E) 45



20. Şekilde ABCD karesinin içteğet çemberi verilmiştir. $m(\hat{KEF}) = \alpha$ kaç derecedir?

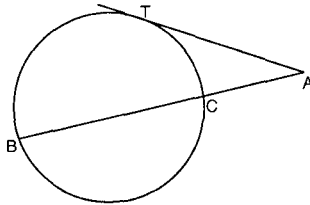
- A) 30 B) 45 C) 60 D) 67.5 E) 75



ÇEMBERDE KESEN ÖZELİKLERİ VE KUVVET

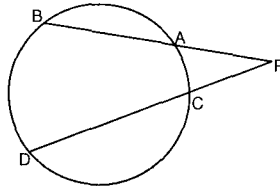
TEST (I)

1. T, teğet değme noktası,
 $|AC| = 4 \text{ cm}$,
 $|BC| = 6 \text{ cm}$ ise,
 $|AT|$ kaç cm' -
 dır?



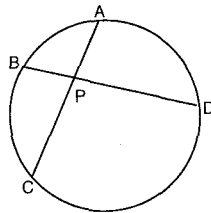
- A) 4 B) $4\sqrt{2}$ C) $2\sqrt{6}$
D) $2\sqrt{10}$ E) $4\sqrt{10}$

2. $|PA| = 2\sqrt{2}$ br ,
 $|BA| = 3\sqrt{2}$ br ,
 $|PC| = 2$ br ise,
 $|DC|$ kaç br'dir?



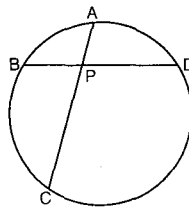
- A) 3 B) 4 C) 5 D) 6 E) 8

3. IAPI = 3 br ,
IPCI = 4 br ,
IBPI = 2 br ise,
IBDI kaç br'dir?



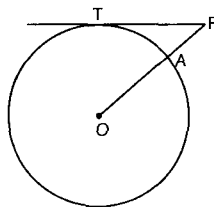
- A) 13 B) 12 C) 10 D) 8 E) 6

4. $IBPI = 6 \text{ cm}$,
 $IPDI = 8 \text{ cm}$,
 $IACI = 19 \text{ cm}$ ise,
 $IAPI$ kaç cm olabilir?



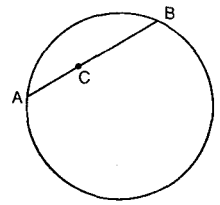
- A) 16 B) 12 C) 10 D) 8 E) 6

5. [PT çembere T noktasında teğet,
O merkez ,
 $IPAI = 2 \text{ cm}$,
 $IAOI = 3 \text{ cm}$ ise,
 $IPTI$ kaç cm'dir?



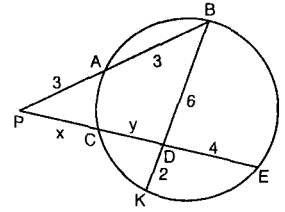
- A) $2\sqrt{10}$ B) $\sqrt{10}$ C) 4
D) 2 E) $2\sqrt{3}$

6. $C \in [AB]$,
 $|AC| = 4 \text{ cm}$,
 $|BC| = 9 \text{ cm}$ ise, **C'den geçen en kısa kırılsın uzunluğu kaç cm'dir?**



- A) 14 B) 12 C) 10 D) 8 E) 6

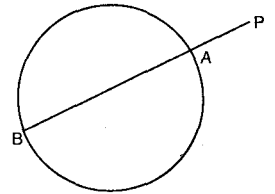
7. Şekilde,
 $IPAI = 3$,
 $IABI = 3$,
 $IPCI = x$,
 $ICDI = y$
 $IDEI = 4$,
 $IKDI = 2$ ise



- x , y kaç br dir?**

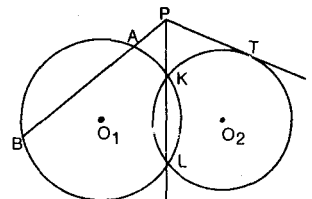
- A) 5 B) 6 C) 8 D) 10 E) 12

8. [AB] çaplı çemberde P noktasının çembere göre kuvveti 12 , $\frac{|PA|}{|PB|} = \frac{1}{3}$ ise, çemberin yarıçapı kaç br'dir?



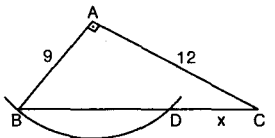
- A) 10 B) 8 C) 6 D) 5 E) 2

9. [PT , O₂ merkezli çembere T'de teğet,
IPAİ = 3 cm ,
IABI = 9 cm ise,
IPTİ kaç cm'dir?



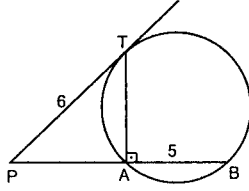
- A) $\sqrt{3}$ B) $3\sqrt{3}$ C) $2\sqrt{6}$
D) 6 E) 8

10. A merkezli, $[AB]$ yarıçaplı çember yayı ABC üçgeninin $[BC]$ kenarını D 'de kesiyor. $|AB| = 9$ cm, $|AC| = 12$ cm ise, $|DC| = x$ kaç cm'dir?



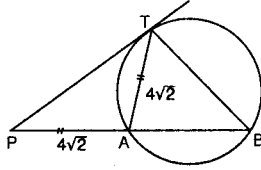
- A) 2,4 B) 3,6 C) 4,2
D) 4,8 E) 6,4

11. [PT , T noktasında çembere teğet,
[TA] $\perp$ [PB] ,
IPTI = 6 cm ,
IABI = 5 cm ise,
çemberin çapı kaç cm'dir?



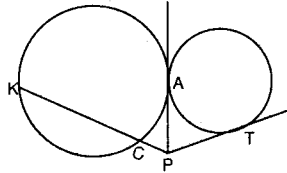
- A) $3\sqrt{5}$ B) $2\sqrt{5}$ C) $\sqrt{5}$
D) $2\sqrt{2}$ E) $\sqrt{2}$

12. [PT , T noktasında çembere teğet ,
IPAI = IATI = $4\sqrt{2}$ cm,
IABI = $5\sqrt{2}$ cm ise,
ITBI kaç cm'dir?



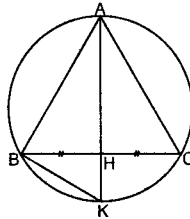
- A) $2\sqrt{2}$ B) $3\sqrt{2}$ C) $4\sqrt{2}$
D) $5\sqrt{2}$ E) $6\sqrt{2}$

13. Çemberler A noktasında dıştan teğet,
[PT , T noktasında teğet ,
IPTI = 6 cm ,
IPCI = 3 cm ise, IKCI kaç cm'dir?



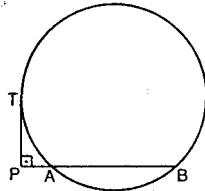
- A) 3 B) 6 C) 9 D) 12 E) 15

14. IABI = IACI = 5 cm ,
IBCI = 6 cm ,
IBHI = IHCI ise,
IBKI kaç cm'dir?



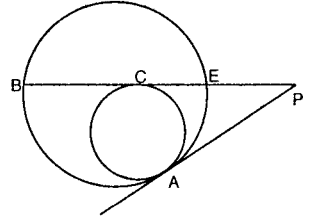
- A) $\frac{15}{4}$ B) 5 C) $\frac{5}{2}$ D) 3 E) 2

15. [PT , T noktasında çembere teğet,
[PT] $\perp$ [PB] ,
IPTI = 3 br ,
IPAI = 1 br ise,
çemberin yarıçapı kaç br'dir?



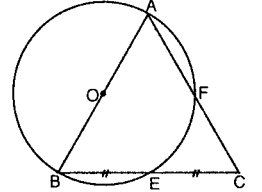
- A) 2 B) 3 C) 4 D) 5 E) 6

16. C ve A teğet değme noktaları,
IPAI = 9 cm ,
ICEI = 3 cm ise,
IBCI kaç cm'dir?



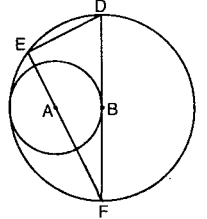
- A) 4,5 B) 5 C) 5,5 D) 6 E) 6,5

17. O merkezli çemberde,
IBEI = IECI = 9 cm ,
 Δ
A(ABC) = 108 cm² ise,
IAFI kaç cm'dir?



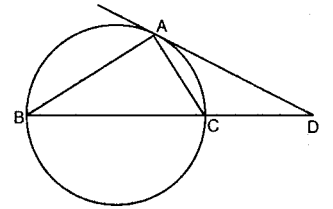
- A) 3,6 B) 4,2 C) 4,8
D) 5 E) 6

18. A ve B merkezli çemberler içten teğet,
IEDI = 4 cm ise,
A merkezli çemberin yarıçapı kaç cm'dir?



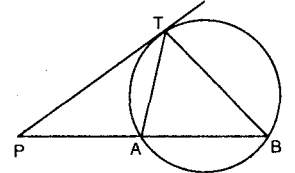
- A) 2 B) $\sqrt{5}$ C) $2\sqrt{5}$
D) 3 E) 4

19. A, teğetin değme noktası,
B, C, D doğrusal
IADI = 16 cm ,
IABI = 8 cm ,
IACI = 4 cm ise,
IBCI kaç cm'dir?



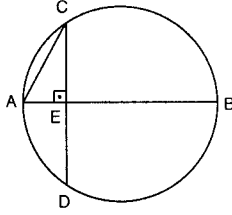
- A) 9 B) 12 C) 16 D) 18 E) 24

20. [PT , T noktasında çembere teğet,
P, A, B doğrusal,
IPAI = 9 cm ,
IATI = 6 cm ,
IABI = 7 cm ise,
IBTI kaç cm'dir?



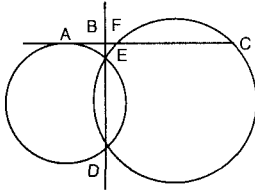
- A) 4 B) 5 C) 6 D) 8 E) 9

11. $[AB]$ çaplı çemberde
 $IACI = 4$ cm,
 $IEBI = 15$ cm ise
 $ICDI$ kaç cm'dir?



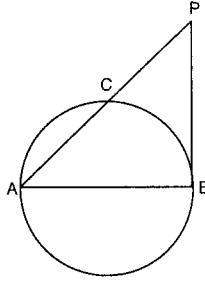
- A) $2\sqrt{15}$ B) $\sqrt{15}$ C) 4
D) 8 E) 16

12. A, teğet değme noktası $IABI = 4$ cm,
 $IBEI = 1$ cm
 $IBFI = 2$ cm ise
 $IEDI - IFCI$ kaç cm'dir?



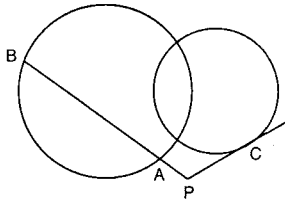
- A) 16 B) 14 C) 12 D) 9 E) 8

13. $[AB]$ çap, B teğet değme noktası $IPCI = 3$ cm,
 $IACI = \frac{7}{3}$ cm ise
çemberin yarıçapı kaç cm'dir?



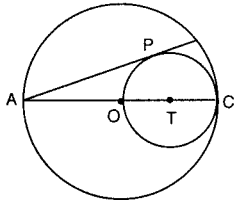
- A) $\frac{20}{3}$ B) $\frac{10}{3}$ C) $\frac{7}{3}$ D) $\frac{2\sqrt{7}}{3}$ E) $\frac{4\sqrt{7}}{3}$

14. $[PC, C'$ 'de teğet
 $IPAI = 4$ cm,
 $IABI = 12$ cm ise
 $IPCI$ kaç cm'dir?



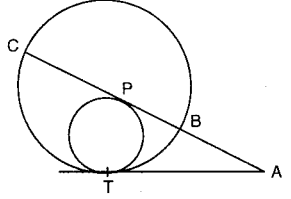
- A) 4 B) 5 C) 6 D) 7 E) 8

15. O ve T merkezli çemberler C'de içten teğet $[AP]$, P'de teğet $IACI = 16$ cm ise $IAPC$ kaç cm'dir?



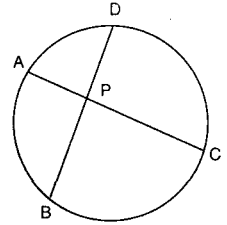
- A) $4\sqrt{2}$ B) $6\sqrt{2}$ C) $8\sqrt{2}$
D) $10\sqrt{2}$ E) $12\sqrt{2}$

16. P ve T teğet değme noktaları $IAT I = 8$ br,
 $IPCI = 4$ br ise
 $IPBI$ kaç br'dir?



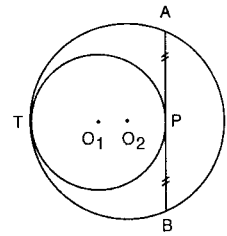
- A) 6 B) 5 C) 4 D) $\frac{16}{3}$ E) $\frac{8}{3}$

17. $IAP I = (x + 1)$ br
 $IPCI = 2x$ br
 $IDPI = x$ br
 $IBPI = (x + 5)$ br ise
x kaçtır?



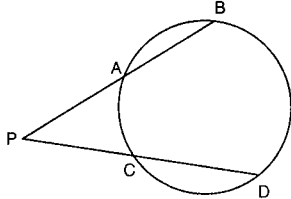
- A) 2 B) 3 C) $\frac{7}{2}$ D) 4 E) $\frac{9}{2}$

18. O_1 ve O_2 merkezli çemberler T noktasında teğet ve yarıçapları sırasıyla 6 ve 8 cm'dir. $IAP I = IPBI$ ise $IABI$ kaç cm'dir?



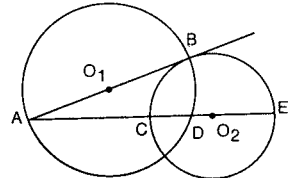
- A) $2\sqrt{3}$ B) $4\sqrt{3}$ C) $6\sqrt{3}$
D) $8\sqrt{3}$ E) $12\sqrt{3}$

19. $IPAI = x$ br,
 $IABI = y$ br,
 $IPCI = ICDI = 2$ br
 $IPAI \neq IPCI$ ise
 $\frac{(x-2)(x+2)}{4-xy}$ oranı kaçtır?



- A) $\sqrt{3}$ B) $\sqrt{2}$ C) 1 D) -1 E) $-\sqrt{2}$

20. $[AB]$ küçük çembere B'de teğet, $[AB]$ ve $[CE]$ çemberlerin çaplarıdır. $IACI = ICEI$ ise büyük çemberin yarıçapı küçük çemberin yarıçapının kaç katıdır?



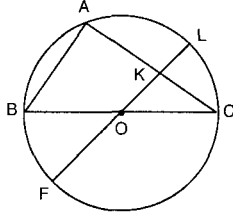
- A) $\sqrt{2}$ B) $\frac{\sqrt{2}}{2}$ C) $\frac{\sqrt{3}}{2}$ D) $2\sqrt{2}$ E) $4\sqrt{2}$

ÇEMBERDE KESEN ÖZELLİKLERİ VE KUVVET

TEST

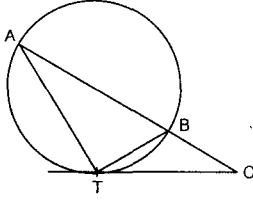
3

1. O merkezli çemberde
[AB] // [FL]
|AB| = 12 cm
|OC| = 10 cm
|KL| kaç cm'dir?



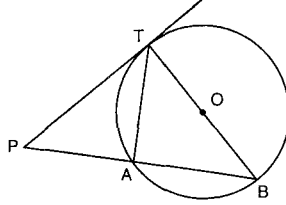
A) 2 B) 3 C) 4 D) 5 E) 6

2. T, teğet değme noktası
|AT| = 8 br,
|BT| = 4 br,
|BC| = 2 br ise
 Δ
Çevre(ABT) kaç br'dir?



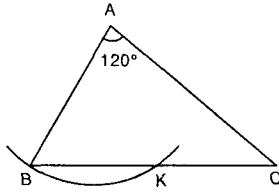
A) 20 B) 18 C) 16 D) 12 E) 10

3. O merkez, T teğet değme noktası
|OT| = 4 cm
|PT| = 6 cm
|AT| kaç cm'dir?

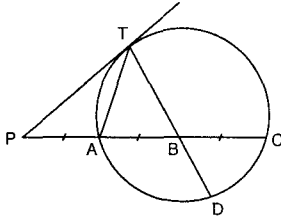


A) 2,4 B) 3,2 C) 4 D) 4,2 E) 4,8

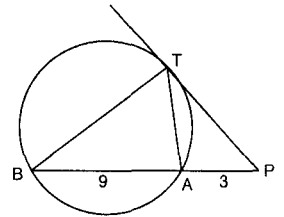
4. A merkezli [AB] yarıçaplı çember yayı [BC]'yi K'da kesiyor.
 $m(\hat{A}) = 120^\circ$,
|AB| = 3 br,
|BC| = 7 br ise |BK| kaç br'dir?

A) $\frac{16}{7}$ B) $\frac{23}{7}$ C) $\frac{25}{7}$ D) 4 E) 5

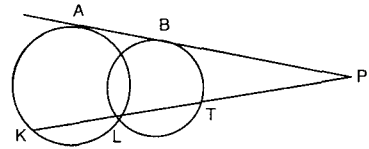
5. [PT], T'de teğet
|PA| = |AB| = |BC|
|PT| = 6 cm
|DB| = 2 cm ise
|AT| kaç cm'dir?

A) $\sqrt{2}$ B) $3\sqrt{2}$ C) $4\sqrt{2}$ D) $2\sqrt{7}$ E) $2\sqrt{6}$

6. T, teğet değme noktası
|AP| = 3 cm,
|AB| = 9 cm
 $\frac{|BT|}{|AT|}$ kaçtır?

A) $\frac{7}{2}$ B) 3 C) $\frac{5}{2}$ D) 2 E) 1

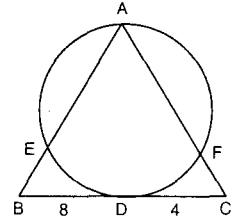
7.



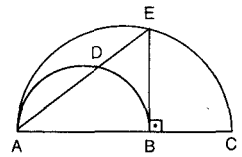
A ve B teğet değme noktaları $2|KL| = 2|LT| = |PT|$ ise $\frac{|PA|}{|PB|}$ oranı kaçtır?

A) $3\sqrt{2}$ B) $2\sqrt{2}$ C) $\sqrt{2}$ D) 2 E) $\frac{1}{2}$

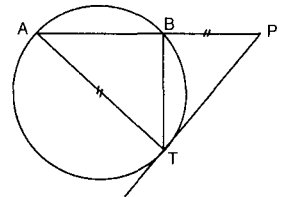
8. Δ
ABC eşkenar üçgen
|BD| = 8 br
|DC| = 4 br ise
 $\frac{|EB|}{|FC|}$ oranı kaçtır?

A) 6 B) 4 C) $\frac{5}{2}$ D) $\frac{3}{2}$ E) 2

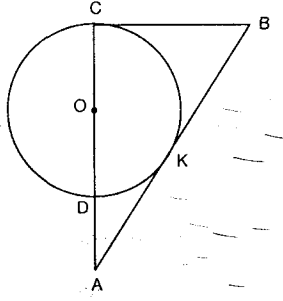
9. [AB] ve [AC] çaplı çemberler A'da içten teğet,
|AB| = 16 cm
|BC| = 9 cm ise
|AD| kaç cm'dir?

A) $\frac{64}{5}$ B) $\frac{48}{5}$ C) $\frac{32}{5}$ D) $\frac{24}{5}$ E) $\frac{12}{5}$

10. T, teğet değme noktası
|BT| = 4 cm,
|PT| = 8 cm,
|AT| = |BP| ise
|AB| kaç cm'dir?

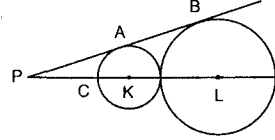
A) $\sqrt{2}$ B) $2\sqrt{2}$ C) $3\sqrt{2}$
D) $4\sqrt{2}$ E) $5\sqrt{2}$

11. O merkezli çemberde $[BC]$ ve $[BA]$ sırasıyla C ve K 'da teğet $IOCI = 2,5$ cm $IADI = 4$ cm ise $IBCI$ kaç cm'dir?



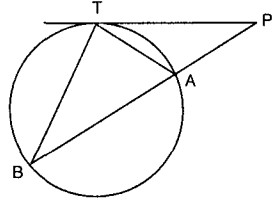
- A) 4 B) 5 C) 6 D) $\frac{15}{2}$ E) $\frac{15}{4}$

12. K ve L merkezli çemberler dıştan teğet ve yarıçapları sırasıyla 2 ve 5 cm ise $IPCI$ kaç cm'dir?



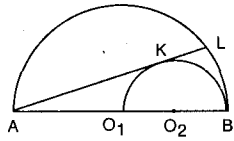
- A) $\frac{5}{3}$ B) 2 C) $\frac{7}{3}$ D) $\frac{8}{3}$ E) 3

13. T ; teğet değme noktası $IPTI = 8$ br, $ITBI = 6$ br, $IAPL = 6$ br $ITAI = x$ kaç br'dir?



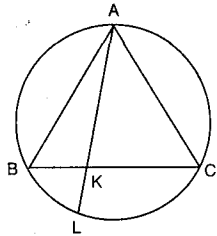
- A) 4 B) $\frac{9}{2}$ C) $\frac{11}{2}$ D) 6 E) 8

14. O_1 ve O_2 merkezli çemberler B 'de içten teğet $IAKI = 2\sqrt{2}$ cm ise $IKLI$ kaç cm'dir?



- A) $\frac{\sqrt{2}}{2}$ B) $\sqrt{2}$ C) $\frac{2\sqrt{2}}{3}$ D) $2\sqrt{2}$ E) $2\sqrt{3}$

15. ABC eşkenar üçgen $\Delta A(ABC) = 2\sqrt{3}$ cm² ise $IAKI.IALI$ kaçtır?



- A) 6 B) 8 C) 9 D) $8\sqrt{3}$ E) 16

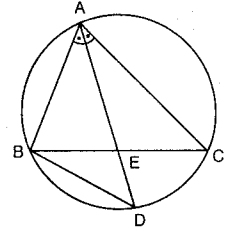
16. $[AD]$ açıortay

$$IABI = 3 \text{ cm,}$$

$$IAEI = 6 \text{ cm,}$$

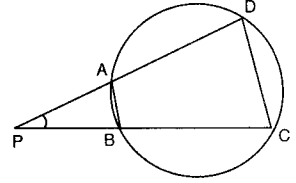
$$IECI = 4 \text{ cm,}$$

$$IBDI = x \text{ kaç cm'dir?}$$



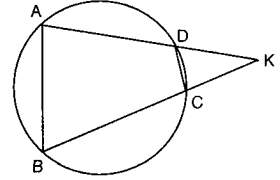
- A) 2 B) 2,5 C) 3 D) 3,5 E) 4

17. $IABI = 3$ cm, $IDCI = 4$ cm, $IPBI = 6$ cm, $IPDI$ kaç cm'dir?



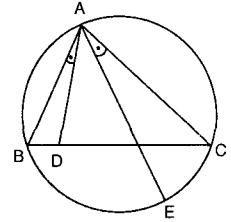
- A) 4 B) 5 C) 6 D) 7 E) 8

18. $IDKI = 4$ br, $IKCI = 3$ br, $IBCI = 5$ br ise $IADI$ kaç br'dir?



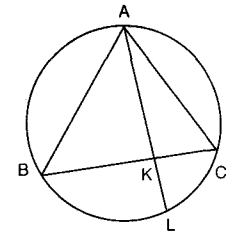
- A) 1 B) 1,5 C) 2 D) 2,5 E) 3

19. $m(\widehat{BAD}) = m(\widehat{EAC})$ $IABI = 4$ br, $IACI = 6$ br, $IADI + IAEI = 11$ br ise $IAEI$ kaç br olabilir?



- A) 4 B) 5 C) 6 D) 8 E) 9

20. ΔABC eşkenar $IABI = 6$ cm $\frac{IAKI}{IKLI} = \frac{4}{5}$ ise $IAKI$ kaç cm'dir?

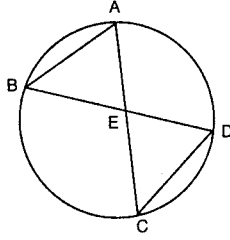


- A) 4 B) 4,5 C) 5 D) 5,5 E) 6

ÇEMBERDE KESEN ÖZELİKLERİ VE KUVVET

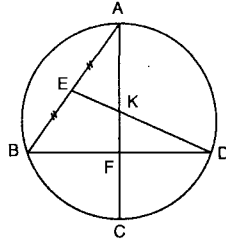
TEST 4

1. A, B, C, D çember üzerinde
 $IBEI = 3$ br,
 $IECI = 4$ br
 $IABI = 6$ br ise
 $IDCI$ kaç br'dir?



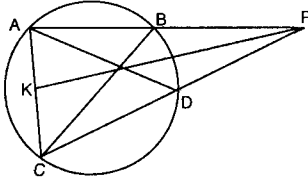
A) 4 B) 5 C) 6 D) 7 E) 8

2. $IAEI = IEBI$
 $IAKI = 3$ br
 $IKFI = 1$ br
 $IFDI = 2$ br ise
 $IFCI$ kaç br'dir?



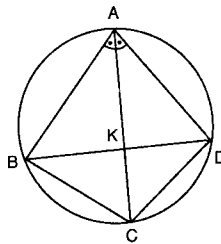
A) 1,5 B) 2 C) 2,5 D) 3 E) 3,5

3. $2IAKI = 3IKCI$
 $ICDI = 4$ cm
 $IPDI = 6$ cm
 IAP kaç cm'dir?



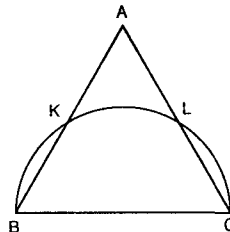
A) $2\sqrt{30}$ B) $\sqrt{30}$ C) $2\sqrt{6}$
D) $2\sqrt{10}$ E) $2\sqrt{15}$

4. $IABI = IACI$
 $[AC]$ açıortay
 $IAKI = 6$ br,
 $IKCI = 2$ br ise
 $IDCI$ kaç br'dir?



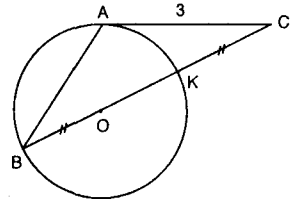
A) 2 B) $2\sqrt{2}$ C) 4 D) $3\sqrt{2}$ E) $3\sqrt{3}$

5. $[BC]$ çaplı yarım çember ve $IABI = IACI$ veriliyor.
 $IBCI = 4$ cm,
 $IBKI = 2$ cm ise
 $IAKI$ kaç cm'dir?



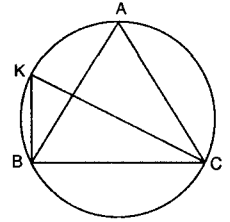
A) 1 B) 2 C) $2\sqrt{2}$ D) $2\sqrt{3}$ E) 4

6. O merkezli çemberde A, $[AC]$ teğet parçasının değme noktasıdır.
 $IOBI = IKCI$
 $IACI = 3$ br ise
 $IABI$ kaç br'dir?



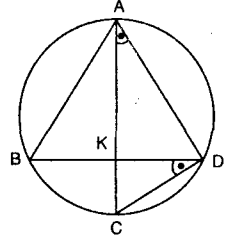
A) 2 B) $\frac{5}{2}$ C) 3 D) $\frac{7}{2}$ E) 4

7. ABC eşkenar üçgen
 $IBKI = 4$ cm
 $IKCI = 6$ cm ise
 $IACI$ kaç cm'dir?



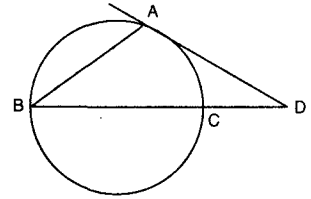
A) $2\sqrt{7}$ B) $2\sqrt{10}$ C) $2\sqrt{13}$
D) 8 E) 10

8. $m(\widehat{CAD}) = m(\widehat{BDC})$
 $IAKI = 8$ cm,
 $IKCI = 2$ cm,
 $IADI = 12$ cm ise
 $IABI$ kaç cm'dir?



A) $\frac{11}{3}$ B) $\frac{13}{3}$ C) $\frac{17}{3}$ D) $\frac{19}{3}$ E) $\frac{20}{3}$

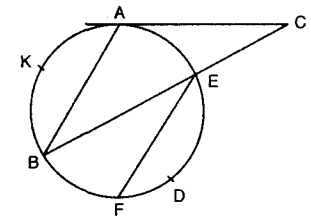
9. A, teğet değme noktası
 $IADI = 12$ cm
 $IABI = 8$ cm
 $IACI = 6$ cm



Çevre (ABD) kaç cm'dir?

A) 28 B) 36 C) 38 D) 39 E) 40

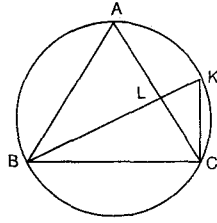
10. A, değme noktası
 $[AB] \parallel [FE]$
 $m(\widehat{AKB}) = m(\widehat{FDE})$
 $m(\widehat{BAC}) = 120^\circ$
 $IFEI = \sqrt{3}$ br ise
 $IECI$ kaç br'dir?



A) 1 B) 2 C) $\sqrt{3}$ D) $\sqrt{2}$ E) $2\sqrt{3}$

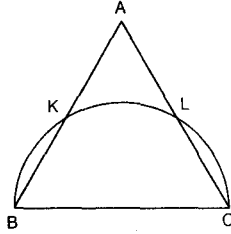
ZAFER YAYINLARI

11. ABC üçgen
IBLI = 5 br
ILCI = 3 br
ILKI = 2 br ise
IALI kaç br'dir?



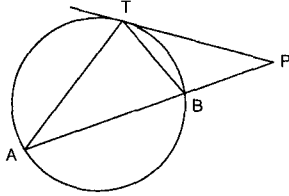
- A) $\frac{5}{3}$ B) $\frac{7}{3}$ C) $\frac{10}{3}$ D) $\frac{11}{3}$ E) $\frac{19}{3}$

12. [BC] çap
IABI = IACI
IBCI = 5 br
IKBI = 3 br
IAKI kaç br'dir?



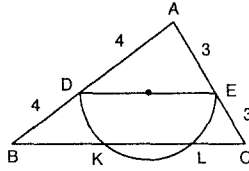
- A) $\frac{4}{3}$ B) $\frac{5}{4}$ C) $\frac{6}{5}$ D) $\frac{7}{6}$ E) $\frac{8}{7}$

13. T, teğet değme noktası
 $\frac{A(TAB)}{A(TBP)} = \frac{3}{2}$
IATI = $2\sqrt{10}$ ise
ITBI kaç br'dir?



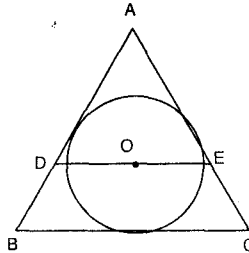
- A) 5 B) 4 C) 3 D) 2 E) 1

14. [DE] çaplı yarım çember verilmiştir.
[BA] ⊥ [AC]
IADI = IDBI = 4 br,
IAEI = IECI = 3 br ise
IKLI kaç br'dir?



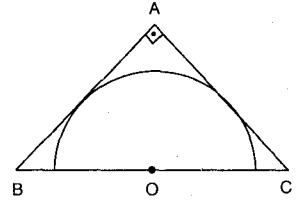
- A) 0,8 B) 1,2 C) 1,4 D) 2,5 E) 5

15. O içteğet çemberin merkezi
[DE] // [BC]
IDBI = 2 cm
IECI = 4 cm
IBCI = 9 cm ise
 Δ Çevre(ABC) kaç cm'dir?



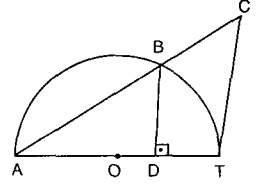
- A) 24 B) 25 C) 26 D) 27 E) 28

16. ABC dik üçgen
O merkez
IOBI = 6 cm,
IOCI = 8 cm
çemberin yarıçapı kaç cm'dir?



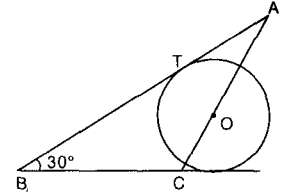
- A) 1,2 B) 2,4 C) 3,2 D) 4,8 E) 5

17. T teğet değme noktası,
[BD] ⊥ [AT]
IBDI = 6 cm,
ICTI = 8 cm
O merkezli çemberin yarıçapı kaç cm'dir?



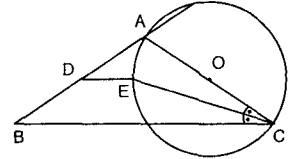
- A) $4\sqrt{3}$ B) $3\sqrt{3}$ C) $2\sqrt{3}$
D) $2\sqrt{2}$ E) $\sqrt{3}$

18. O merkez [AB], T'de
teğet $m(\widehat{ABC}) = 30^\circ$
IABI = 8 br.
IBCI = 2 br ise
çemberin yarıçapı kaç br'dir?



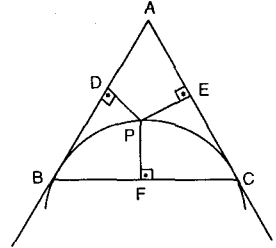
- A) $\frac{3}{5}$ B) $\frac{4}{5}$ C) 2 D) 3 E) $\frac{10}{3}$

19. O merkez
IACI = 24 cm
IBCI = 40 cm
[DE] // [BC]
[CE] açıortaydır.
IDEI kaç cm'dir?



- A) 9 B) 8 C) 7 D) 6 E) 5

20. Şekildeki ABC üçgeninde, B ve C teğet değme noktaları, $P \in \widehat{BC}$
[PD] ⊥ [AB],
[PE] ⊥ [AC],
[PF] ⊥ [BC],
IPEI = 2 cm,
IPDI = 3 cm ise
IPFI kaç cm'dir?



- A) 1 B) $\sqrt{2}$ C) $\sqrt{6}$ D) $2\sqrt{6}$ E) $2\sqrt{3}$

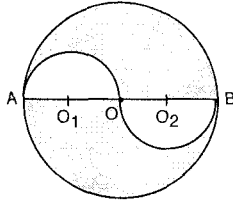
ÇEMBERDE ÇEVRE ALAN VE BENZERLİK

TEST

1

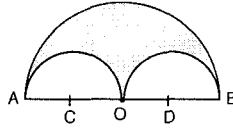
1. O, O₁ ve O₂ merkezli çemberler birbirine teğettir.

IABI = 8 cm ise taralı alan kaç cm²dir?



A) 10π B) 12π C) 13π D) 14π E) 15π

2. C, O ve D yarım çemberlerin merkezleridir. Yarım çemberler A, O ve B noktalarında birbirine teğettir. IABI = 12 cm ise taralı alan kaç cm²dir?



A) 9π B) 8π C) 6π D) 4π E) 2π

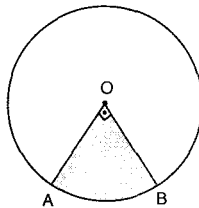
3. Çevreleri oranı $\frac{2}{3}$ olan dairelerin alanları oranı kaçtır?

A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) $\frac{3}{4}$ D) $\frac{4}{9}$ E) $\frac{5}{9}$

4. Yarıçapı 2 katı kadar artırılan dairenin alanı kaç katı kadar artar?

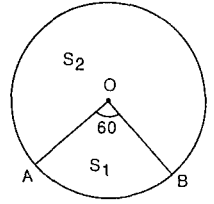
A) 6 B) 7 C) 8 D) 9 E) 12

5. O merkezli dairenin çervesi 4π br ve m(AOB) = 90° ise taralı alan kaç br²dir?



A) $\frac{\pi}{4}$ B) $\frac{\pi}{2}$ C) π D) 2π E) 4π

6. O merkezli çemberde m(AOB) = 60° ise $\frac{S_1}{S_2}$ oranı kaçtır?



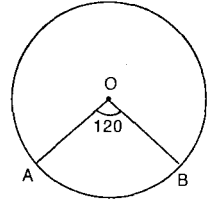
A) $\frac{1}{6}$ B) $\frac{1}{3}$ C) $\frac{1}{5}$ D) $\frac{2}{5}$ E) $\frac{3}{5}$

7. O merkezli çemberde

$$m(\widehat{AOB}) = 120^\circ$$

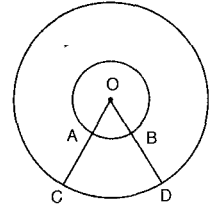
$$IAOI = 6 \text{ cm ise}$$

AOB daire diliminin alanı kaç cm²dir?



A) 16π B) 12π C) 10π D) 8π E) 6π

8. O merkezli dairelerin yarıçapları oranı $\frac{1}{2}$ ise $\frac{IAB}{ICD}$ oranı kaçtır?



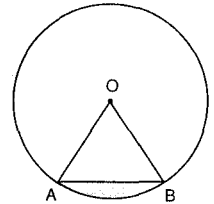
A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{1}{4}$ D) $\frac{1}{5}$ E) $\frac{1}{6}$

9. O merkezli çemberde

$$\triangle AOB \text{ eşkenar,}$$

$$IABI = 6 \text{ cm ise}$$

taralı alan kaç cm²dir?



A) $16\pi - 9\sqrt{3}$ B) $12\pi - 9\sqrt{3}$ C) $6\pi - 6\sqrt{3}$
D) $9\sqrt{3}$ E) $6\pi - 9\sqrt{3}$

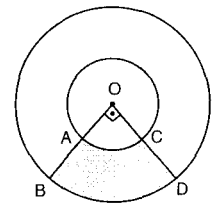
10. O merkezli dairelerde,

$$[OB] \perp [OD],$$

$$IOAI = 2 \text{ cm ve}$$

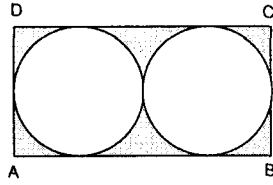
$$IABI = 1 \text{ cm ise}$$

taralı alan kaç cm²dir?



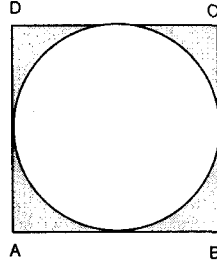
A) 2π B) $\frac{7\pi}{4}$ C) $\frac{3\pi}{2}$ D) $\frac{5\pi}{4}$ E) $\frac{\pi}{4}$

11. ABCD dikdörtgen çemberler birbirine teğet $IA DI = 6$ br taralı alan kaç br^2 dir?



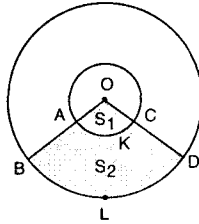
- A) $72 - 20\pi$ B) $48 - 12\pi$ C) $72 - 18\pi$
D) $36 - 9\pi$ E) $48 - 9\pi$

12. ABCD karedir. Taralı bölgenin alanı $4 - \pi$ br^2 ise çemberin yarıçapı kaç br 'dir?



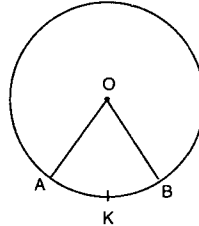
- A) $\frac{1}{2}$ B) 1 C) 2 D) $\frac{3}{2}$ E) 3

13. $\frac{S_1}{S_2} = \frac{1}{3}$ ise $\frac{IBLDI}{IAKCI}$ oranı kaçtır?



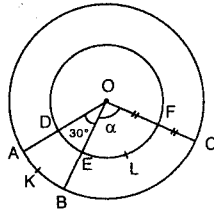
- A) 2 B) $\frac{5}{4}$ C) $\frac{4}{3}$ D) $\frac{3}{2}$ E) $\frac{6}{5}$

14. O merkezli çemberde $IAKBI = \pi$ cm $IOAI = 4$ cm ise $m(\hat{AOB})$ kaç derecedir?



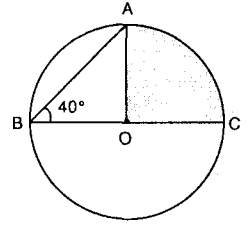
- A) 90 B) 80 C) 60 D) 50 E) 45

15. O merkezli çemberde $IOFI = IFCI$ $m(\hat{AOB}) = 30^\circ$ $IAKBI = IELFI$ ise $m(\hat{COB}) = \alpha$ kaç derecedir?



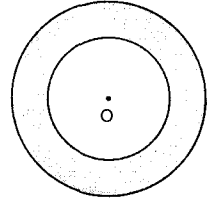
- A) 40 B) 45 C) 50 D) 60 E) 90

16. O merkezli ve 3 br yarıçaplı çemberde $m(\hat{ABC}) = 40^\circ$ ise AOC daire diliminin alanı kaç πbr^2 dir?



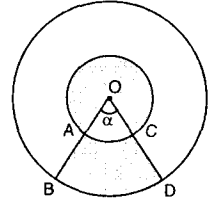
- A) $\frac{9}{2}$ B) 4 C) 3 D) 2 E) 1

17. O merkezli çemberlerin çevreleri farkı 6π br ve taralı alan 15π br^2 ise büyük çemberin yarıçapı kaç br 'dir?



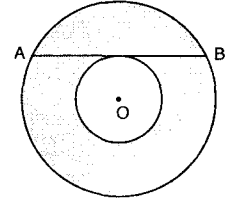
- A) 5 B) 4 C) 3 D) 2 E) 1

18. O merkezli çemberlerde; $2IOCI = ICDI$ ve taralı alanlar eşit ise $m(\hat{BOD}) = \alpha$ kaç derecedir?



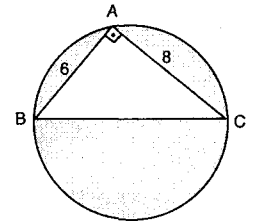
- A) 40 B) 45 C) 50 D) 60 E) 75

19. O merkezli çemberlerde $[AB]$ teğet, $IABI = 2\sqrt{6}$ cm ise taralı alan kaç πbr^2 dir?



- A) 9 B) 8 C) 6 D) 5 E) 4

20. $IABI = 6$ br $IACI = 8$ br $[AB] \perp [AC]$ ise taralı alan kaç br^2 dir?

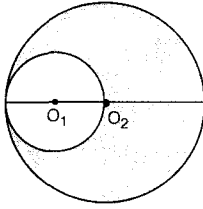


- A) $12\pi - 24$ B) $25\pi - 12$ C) $25\pi - 48$
D) $10\pi - 12$ E) $25\pi - 24$

ÇEMBERDE ÇEVRE ALAN VE BENZERLİK

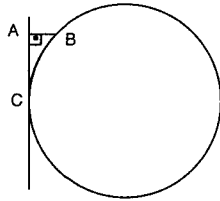
TEST 2

1. O_1 ve O_2 merkezli çemberler içten teğet
 $|O_1O_2| = 2$ cm ise
 taralı alan kaç π cm² dir?



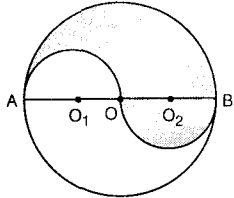
A) 16π B) 12π C) 10π D) 8π E) 6π

2. C teğet değme noktası
 $|AB| = 2$ cm
 $|AC| = 6$ cm ise
 dairenin alanı kaç cm² dir?



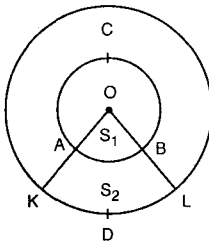
A) 100π B) 90π C) 81π D) 72π E) 49π

3. O , O_1 ve O_2 merkezli çemberler teğettir.
 $|AB| = 12$ br ise
 taralı alan kaç br² dir?



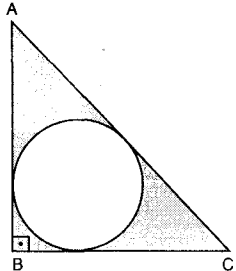
A) 36π B) 24π C) 18π D) 16π E) 12π

4. $\frac{S_1}{S_2} = \frac{4}{5}$
 $\widehat{AOB} = 30^\circ$
 $|KDL| = 9\pi$ cm ise
 $|ACB|$ kaç π cm dir?



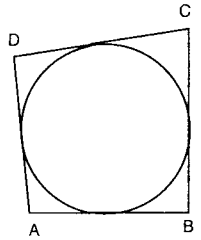
A) 48 B) 54 C) 60 D) 66 E) 72

5. Şekilde ABC dik üçgeninin iç teğet çemberi çizilmiştir.
 $|BC| = 7$ cm
 $|AB| = 24$ cm ise
 taralı alan kaç cm² dir?



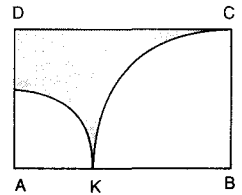
A) $84 - \pi$ B) $84 - 4\pi$ C) $84 - 6\pi$
 D) $84 - 8\pi$ E) $84 - 9\pi$

6. ABCD teğetler dörtgeni, çemberin yarıçapı 4 br, $\widehat{C(ABCD)} = 36$ br ise $A(ABCD)$ kaç br² dir?



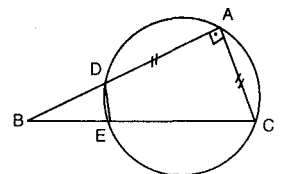
A) 144 B) 96
 C) 72 D) 48
 E) 32

7. ABCD dikdörtgen, A ve B merkezli çeyrek çemberlerin yarıçapları 2 ve 3 cm ve çemberler K noktasında dıştan teğet ise taralı alan kaç cm² dir?



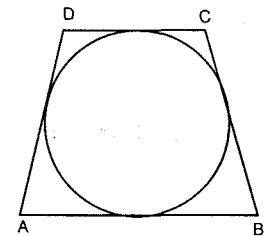
A) $15 - \frac{7\pi}{4}$ C) $15 - \frac{9\pi}{4}$ D) $15 - \frac{11\pi}{4}$
 D) $15 - \frac{13\pi}{4}$ E) $15 - 3\pi$

8. ABC dik üçgen
 $|AD| = |AC|$
 $|DE| = 1$ cm
 $|EC| = 5$ cm ise
 $\frac{A(BDE)}{A(DECA)}$ oranı kaçtır?



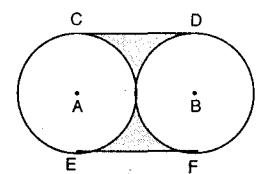
A) $\frac{1}{12}$ B) $\frac{1}{11}$ C) $\frac{2}{11}$ D) $\frac{2}{3}$ E) $\frac{4}{5}$

9. ABCD ikizkenar yamuk
 $|DC| = 6$ br
 $|AB| = 10$ br ise
 $A(ABCD)$ kaç br² dir?



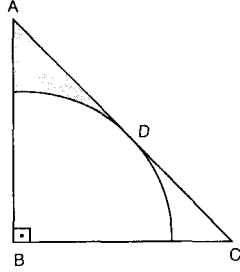
A) $16\sqrt{15}$ B) $18\sqrt{15}$ C) $32\sqrt{15}$
 D) $48\sqrt{15}$ E) $64\sqrt{15}$

10. Şekilde A ve B merkezli eş çemberler dıştan teğettir. [CD] ve [EF] ortak dış teğetleri ve $|AB| = 4$ cm ise taralı alan kaç cm² dir?



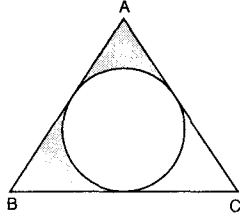
A) $16 - 8\pi$ B) $8 - 4\pi$ C) $16 - 2\pi$
 D) $16 - \pi$ E) $16 - 4\pi$

11. ABC ikizkenar dik üçgen, B merkezli çeyrek çember veriliyor. Çeyrek çember üçgene D noktasında teğet ve $|AB| = |BC| = 4$ cm ise **taralı alan kaç cm^2 dir?**



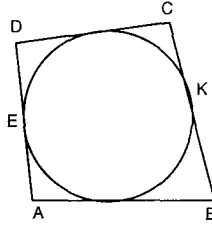
- A) $16 - 2\pi$ B) $8 - 4\pi$ C) $8 - 2\pi$
D) $4 - \pi$ E) $6 - \pi$

12. Şekilde ABC eşkenar üçgeninin iç teğet çemberi çizilmiştir. $|AB| = 6$ cm ise **taralı alan kaç cm^2 dir?**



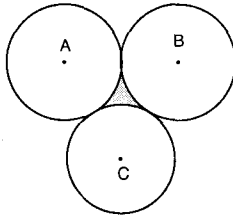
- A) $6\sqrt{3} - 3\pi$ B) $9\sqrt{3} - 3\pi$ C) $3\sqrt{3} - \pi$
D) $\pi - \sqrt{3}$ E) $6\sqrt{3} - 2\pi$

13. ABCD teğetler dörtgeni $|DE| = 1$ cm
 $|CK| = 1,5$ cm
 $|BK| = 2$ cm
 $|AE| = 3$ cm ve
 $A(ABCD) = 10 \text{ cm}^2$
ise **çemberin yarıçap kaç cm'dir?**



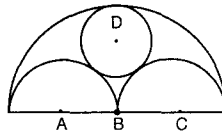
- A) $\frac{5}{3}$ B) $\frac{4}{3}$ C) $\frac{3}{4}$ D) $\frac{2}{3}$ E) $\frac{1}{2}$

14. A, B ve C merkezli özdeş çemberler ikiyeşerli teğettir. Yarıçapları 6 cm ise **taralı alan kaç cm^2 dir?**



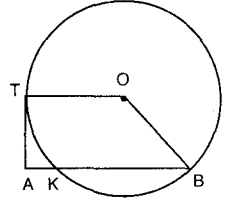
- A) $36\sqrt{3} - 18\pi$ B) $36\sqrt{3} - 6\pi$ C) $36\sqrt{3} - 12\pi$
D) $9\sqrt{3} - 2\pi$ E) $9\sqrt{3} - 6\pi$

15. A, B, C ve D merkezli daireler teğettir. $|AB| = 2$ cm ise **D merkezli dairenin alanı kaç $\pi \text{ cm}^2$ dir?**



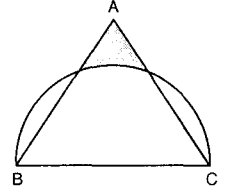
- A) $\frac{4}{3}$ B) $\frac{9}{4}$ C) $\frac{16}{9}$ D) $\frac{25}{4}$ E) $\frac{36}{25}$

16. T, teğet değme noktası
 $|BK| = |OB| = 8$ cm
 $[OT] \parallel [AB]$ ise
A(ABOT) kaç cm^2 dir?



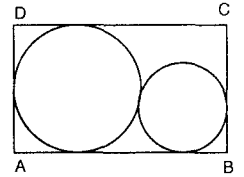
- A) $44\sqrt{3}\pi$ B) $42\sqrt{3}\pi$ C) $40\sqrt{3}$
D) $36\sqrt{3}$ E) $32\sqrt{3}$

17. Şekilde ABC eşkenar üçgeni [BC] çaplı yarım çember çizilmiştir. $|BC| = 2$ cm ise **taralı alan kaç cm^2 dir?**



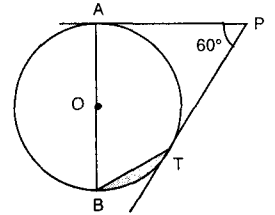
- A) $\sqrt{3} - \frac{\pi}{2}$ B) $\frac{\sqrt{3}}{2} - \frac{\pi}{6}$ C) $\sqrt{3} - \frac{\pi}{6}$
D) $\frac{\sqrt{3}}{2} - \frac{\pi}{3}$ E) $\frac{\sqrt{3}}{4}$

18. Şekilde ABCD dikdörtgeninin içine birbirine dıştan teğet iki çember çizilmiştir. $|AD| = 8$ cm
 $|AB| = 9$ cm
küçük dairenin alanı kaç cm^2 dir?



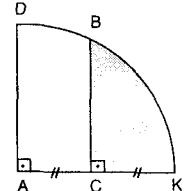
- A) 4π B) $\frac{9\pi}{4}$ C) $\frac{3\pi}{2}$ D) π E) $\frac{\pi}{4}$

19. O merkezli çemberde A ve T teğet değme noktaları, $m(\hat{P}) = 60^\circ$
 $|AB| = 8$ cm ise **taralı alana kaç cm^2 dir?**



- A) $\frac{8\pi}{3} - 4\sqrt{3}$ B) $\frac{8\pi}{3} - 2\sqrt{3}$ C) $\frac{4\pi}{3} - \sqrt{3}$
D) $\frac{2\sqrt{3}}{3}$ E) $\pi - \frac{\sqrt{3}}{2}$

20. A merkezli çeyrek çemberde $|AC| = |CK| = 3$ cm ise **taralı alan kaç cm^2 dir?**

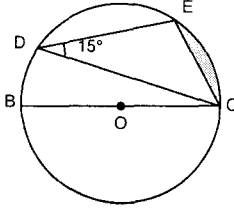


- A) $2\pi - \frac{2\sqrt{3}}{3}$ B) $6\pi - \frac{\sqrt{3}}{2}$ C) $6\pi - \frac{3\sqrt{3}}{2}$
D) $\pi - \frac{\sqrt{3}}{2}$ E) $6\pi - \frac{9\sqrt{3}}{2}$

ÇEMBERDE ÇEVRE ALAN VE BENZERLİK

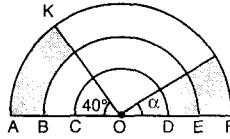
TEST 3

1. O merkez
 $|BC| = 4\sqrt{3}$,
 $m(\widehat{EDC}) = 15^\circ$ ise
taralı alan kaç cm^2 dir?



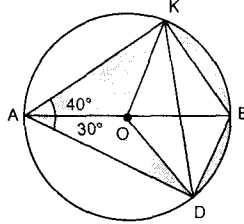
- A) $\pi - 3$ B) $2\pi - 6$ C) $2\pi - \sqrt{3}$
 D) $\pi - \sqrt{3}$ E) $\frac{\sqrt{3}}{2}$

2. O merkezli üç tane yarım daire verilmiştir.
 $|OD| = |DE| = |EF|$
 $m(\widehat{KOA}) = 40^\circ$
 ve taralı alanlar eşit ise
 $m(\widehat{LOF}) = \alpha$ kaç derecedir?



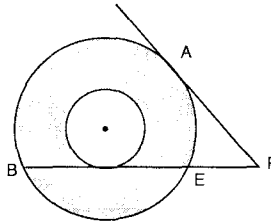
- A) 10 B) 15 C) 20 D) 25 E) 30

3. O merkezli çemberde
 $m(\widehat{KAB}) = 40^\circ$
 $m(\widehat{BAD}) = 30^\circ$
 $|OB| = 6 \text{ cm}$ ise
taralı alanlar toplamı kaç cm^2 dir?



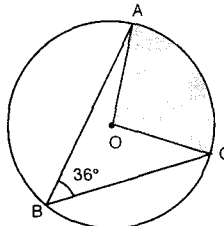
- A) 10π B) 12π C) 14π D) 20π E) 21π

4. O merkezli çemberlerde
 $[PA]$ ve $[PB]$ teğet
 $|PA| = 4 \text{ br}$ ve
 $|PE| = 2 \text{ br}$ ise
daire halkasının alanı kaç br^2 dir?



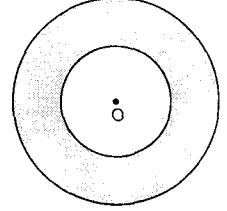
- A) 2π B) 3π C) 7π D) 8π E) 9π

5. O merkez,
 $m(\widehat{ABC}) = 36^\circ$
 $|OC| = 5 \text{ cm}$ ise **taralı alan kaç cm^2 dir?**



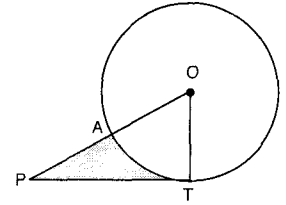
- A) 4π B) 5π C) 6π D) 7π E) 8π

6. O ortak merkez çemberlerini yarıçapları tamsayı, taralı alan $5\pi \text{ cm}^2$ ise çemberlerin çevreleri toplamı kaç $\pi \text{ cm}$ 'dir?



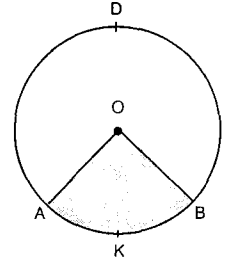
- A) 5 B) 8 C) 10 D) 12 E) 15

7. O merkez,
 T değme noktası
 $|AP| = |OT| = 6 \text{ cm}$
 ise **taralı alan kaç cm^2 dir?**



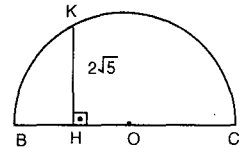
- A) $18\sqrt{3} - 12\pi$ B) $18\sqrt{3} - 6\pi$ C) $18\sqrt{3} - 2\pi$
 D) $18\sqrt{3}$ E) $6\sqrt{3}$

8. $m(\widehat{ADB}) = 11 \cdot m(\widehat{AKB})$
 $|AKB| = \pi \text{ br}$ ise **taralı alan kaç $\pi \text{ br}^2$ dir?**



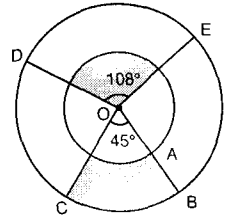
- A) 3π B) 4π C) 5π D) 6π E) 9π

9. $[BC]$ çap
 $|KH| = 2\sqrt{5} \text{ cm}$
 $|BH| = 2 \text{ cm}$ ise
yarım dairenin alanı kaç cm^2 dir?



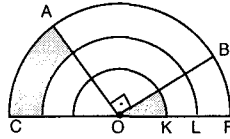
- A) 12π B) 15π C) 16π D) 18π E) 20π

10. O ortak merkez
 $|OA| = |AB|$
 $m(\widehat{COB}) = 45^\circ$
 $m(\widehat{DOE}) = 108^\circ$ ise
taralı alanlar oranı kaç olabilir?



- A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) $\frac{3}{2}$ D) $\frac{3}{4}$ E) $\frac{4}{5}$

11. O merkezli yarım çemberlerde
 $IOKI = IKLI = ILFI$
 $[AO] \perp [OB]$ taralı alanlar



birbirine eşit ise $m(\widehat{BOF})$ kaç derecedir?

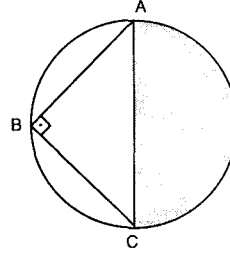
- A) 75 B) 60 C) 52,5 D) 50 E) 40

12. ABC dik üçgen

$$|BC| = 4 \text{ cm}$$

$$|AB| = 2 \text{ cm}$$

taralı alan kaç cm^2 dir?

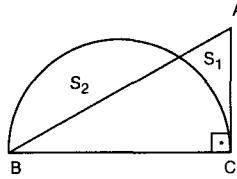


- A) $\frac{\pi}{2}$ B) π C) $\frac{3\pi}{2}$ D) 2π E) $\frac{5\pi}{2}$

13. ABC dik üçgeni

ve $[BC]$ çaplı çember yayı veriliyor.

$S_1 = S_2$, $|AC| = 2 \text{ cm}$ ise çemberin yarıçapı kaç cm dir?



- A) $\frac{2}{\pi}$ B) $\frac{4}{\pi}$ C) $\frac{5}{\pi}$ D) $\frac{6}{\pi}$ E) $\frac{8}{\pi}$

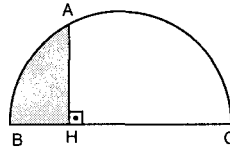
14. $[BC]$ çaplı çemberde

$$|AH| = 6 \text{ cm}$$

$$|HC| = 6\sqrt{3} \text{ cm}$$

$$[AH] \perp [BC]$$

ise taralı alan kaç cm^2 dir?



- A) $8\pi - 6\sqrt{3}$ B) $8\pi - 4\sqrt{3}$ C) $8\pi - 2\sqrt{3}$
D) $6\sqrt{3}$ E) 4π

15. ABC üçgeni,

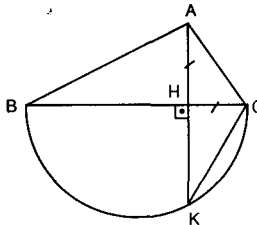
$[BC]$ çap

$$|AH| = |HC|$$

$$[AK] \perp [BC]$$

$$|KC| = 4 \text{ cm}$$

ise $A(\widehat{ABC})$ kaç cm^2 dir?



- A) 16 B) 12 C) 8 D) 6 E) 4

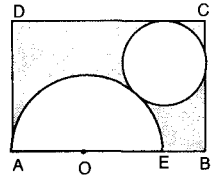
16. ABCD dikdörtgen

$[AE]$ çap

$$|BC| = 5 \text{ cm}$$

$$|EB| = |AO| = 3 \text{ cm}$$

ise taralı alanlar toplamı kaç cm^2 dir?



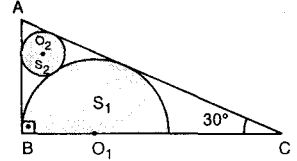
- A) $45 - 9\pi$ B) $45 - \frac{21\pi}{2}$ C) $45 - \frac{17\pi}{2}$
D) $45 - 10\pi$ E) $45 - \frac{23\pi}{2}$

17. ABC dik üçgen

O_1 ve O_2 merkez

$$m(\widehat{ACB}) = 30^\circ$$

$\frac{S_1}{S_2}$ oranı kaçtır?



- A) 9 B) 8 C) 6 D) 5 E) $\frac{9}{2}$

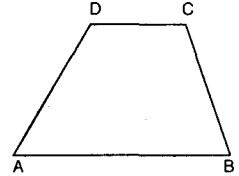
18. ABCD ikizkenar yamuğu

teğetler dörtgenidir.

$$|DC| = 3 \text{ br}$$

$$|AB| = 9 \text{ br}$$

$A(ABCD)$ kaç br^2 dir?



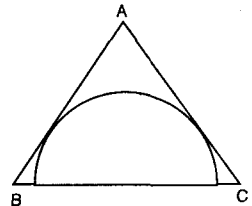
- A) $18\sqrt{3}$ B) $16\sqrt{3}$ C) $12\sqrt{3}$
D) $10\sqrt{3}$ E) $8\sqrt{3}$

19. ABC üçgeninin kenarlarına teğet yarım çember verilmiştir. Çemberin yarıçapı 4 cm'dir.

$$|AB| = 6 \text{ cm}$$

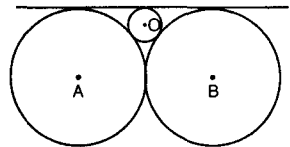
$$|AC| = 8 \text{ cm}$$

ise $A(\widehat{ABC})$ kaç cm^2 dir?



- A) 30 B) 28 C) 24 D) 20 E) 16

20. A ve B merkezli çemberler eşittir. $|AB| = 16 \text{ cm}$ ise O merkezli çemberin çevresi kaç cm'dir?



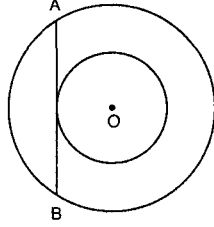
- A) 8π B) 6π C) 5π D) 4π E) 2π

ÇEMBERDE ÇEVRE ALAN VE BENZERLİK

TEST 4

1. O merkezli çemberin yarıçapları R, $R + 2$ cm dir. $AB = 8$ cm ise **küçük dairenin alanı kaç cm^2 dir?**

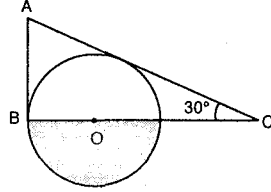
A) 3π B) 4π
C) 9π D) 16π
E) 25π



2. O merkezli çembere $[AB]$, B noktasında teğettir.

$m(\widehat{ACB}) = 30^\circ$
 $AB = 3$ cm ise **yarım dalrenin alanı kaç $\pi \text{ cm}^2$ dir?**

A) $\frac{3\pi}{2}$ B) 2π C) $\frac{5\pi}{2}$ D) 3π E) $\frac{9\pi}{2}$

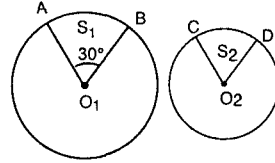


3. O_1 merkezli çemberin yarıçapı O_2 merkezli çemberin yarıçapının iki katıdır.

$m(\widehat{AO_1B}) = 30^\circ$ ve

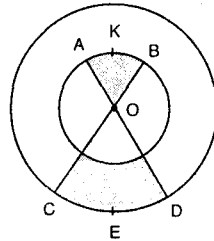
$S_1 = S_2$ ise $m(\widehat{CO_2D})$ kaç derecedir?

A) 60 B) 90 C) 120 D) 135 E) 150



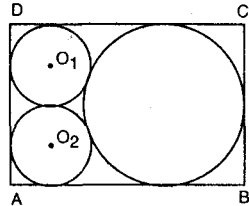
4. $2\widehat{AKB} = \widehat{IDEC}$ ise **taralı alanların oranı aşağıdakilerden hangisi olabilir?**

A) $\frac{1}{8}$ B) $\frac{1}{6}$
C) $\frac{1}{5}$ D) $\frac{1}{4}$
E) $\frac{1}{3}$



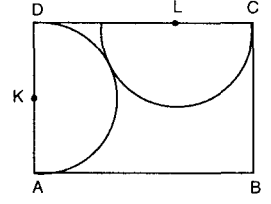
5. ABCD dikdörtgen O_1 ve O_2 merkezli çemberler eş ve 1 cm yarıçaplıdır. Çemberler ikiye bölündüklerine göre **$A(ABCD)$ kaç cm^2 dir?**

A) $2(1+2\sqrt{2})$ B) $4(3+2\sqrt{2})$ C) $2\sqrt{2}+1$
D) $3\sqrt{2}+4$ E) $6\sqrt{2}+10$



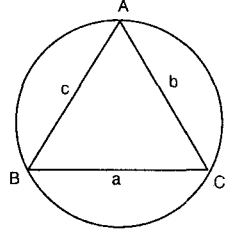
6. ABCD dikdörtgen K ve L merkezli yarım çemberler eştir. $AK = 3$ cm ise **$A(ABCD)$ kaç cm^2 dir?**

A) $18(1+\sqrt{3})$ B) $16(1+\sqrt{3})$ C) $14(1+\sqrt{3})$
D) $12(1+\sqrt{3})$ E) $9(1+\sqrt{3})$



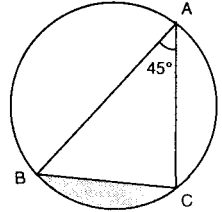
7. ABC üçgeninin çevrel çemberinin yarıçapı 4 cm dir. $b \cdot c = 40 \text{ br}^2$ ise h_a kaç br dir?

A) 3 B) 4
C) 5 D) 6
E) 8



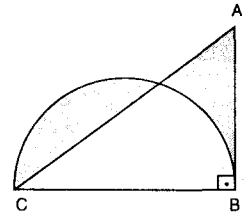
8. $m(\widehat{BAC}) = 45^\circ$
 $BC = 12\sqrt{2}$ cm ise **taralı alan kaç cm^2 dir?**

A) $144\pi - 72$ B) $72\pi - 36$ C) $36\pi - 48$
D) $36\pi - 36$ E) $36\pi - 72$



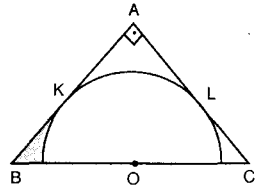
9. ABC ikizkenar dik üçgen ve $[BC]$ çaplı çember veriliyor. $AB = 4$ cm ise **taralı alanların toplamı kaç cm^2 dir?**

A) $4\sqrt{2}$ B) 8 C) $8\sqrt{2}$ D) 4 E) $16\sqrt{2}$



10. ABC ikizkenar dik üçgen ve O merkezli yarım çember üçgene K ve L noktalarında teğettir. $AB = 4\sqrt{2}$ cm ise **taralı alan kaç cm^2 dir?**

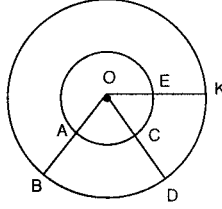
A) $2 - \pi$ B) $4 - \pi$ C) $8 - 2\pi$
D) $8 - \pi$ E) $16 - 4\pi$



ÇEMBERDE ÇEVRE ALAN VE BENZERLİK

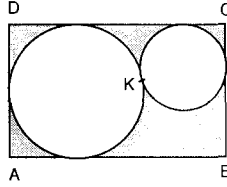
TEST 5

1. Şekildeki O merkezli çemberde
 $\widehat{IBD} = 3\widehat{ACI} = 2\widehat{CEI}$ ve
 $\widehat{IKD} = 24^\circ$ ise
 $\widehat{IBD}$ kaç $^\circ$ dir?



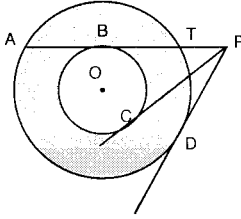
A) 8 B) 10 C) 12 D) 16 E) 20

2. Şekildeki çemberler K noktasında birbirlerine dıştan teğettirler. ABCD dikdörtgen
 $AB = 25$ cm
 $BC = 18$ cm
 ise taralı alan kaç cm^2 dir?

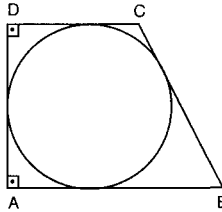


A) $450 - 93\pi$ B) $450 - 97\pi$ C) $450 - 99\pi$
 D) $450 - 100\pi$ E) $450 - 101\pi$

3. O ortak merkez, B, C ve D teğet değme noktaları taralı halkanın alanı $\frac{25\pi}{4} \text{ cm}^2$ ve
 $IP = 4$ cm ise
 $IPC + IPD$ kaç cm^2 dir?
 A) $\frac{25}{2}$ B) 12 C) $\frac{21}{2}$ D) 9 E) $\frac{15}{2}$

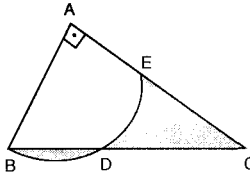


4. ABCD dik yamuk, çemberin yarıçapı 8 cm,
 $IDC + IBC = 32$ cm ise
 $A(ABCD)$ kaç cm^2 dir?



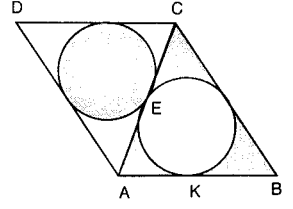
A) 72 B) 108 C) 144 D) 200 E) 288

5. ABC dik üçgen A merkezli ve [AB] yarıçaplı çember yayı veriliyor.
 Taralı alanlar eşit
 $IAC = 2\pi$ cm ise
 çemberin yarıçapı kaç cm dir?



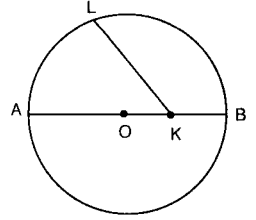
A) 2 B) 3 C) 4 D) $\frac{2}{\pi}$ E) $\frac{4}{\pi}$

6. ABCD paralel kenar ve çemberler eşittir. Çemberler birbirlerine ve köşegene E noktasında teğettir.
 $IBK = 2$ cm
 $IAK = 3$ cm
 ise taralı alanlar toplamı kaç cm^2 dir?



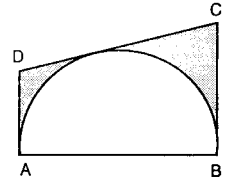
A) $24 + 4\pi$ B) $12 + 4\pi$ C) $12 + 2\pi$
 D) 24 E) 12

7. O merkezli çemberde
 $3IBK = IAK$
 $IKL = \sqrt{2} + \sqrt{14}$ cm
 $m(\angle AKL) = 45^\circ$ ise
 dairenin alanı kaç cm^2 dir?



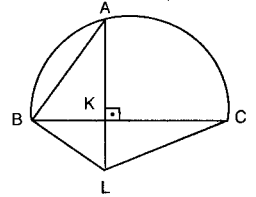
A) 2π B) 7π C) 9π D) 16π E) 21π

8. [AB] çaplı yarım çemberde A ve B teğet değme noktaları,
 $ADI = 2$ cm
 $IBC = 8$ cm ise
 taralı alanlar toplamı kaç cm^2 dir?



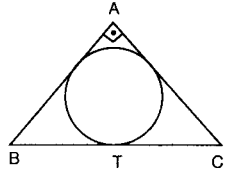
A) $40 - 8\pi$ B) $40 - 10\pi$ C) $40 - 12\pi$
 D) $32 - 8\pi$ E) $32 - 2\pi$

9. [BC] çaplı çember [AL] $\perp$ [BC]
 $IKL = 2IBK$
 $A(\angle BLC) = 16 \text{ br}^2$
 ise IAB kaç br^2 dir?



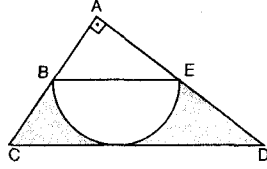
A) 2 B) 3 C) 4 D) 6 E) 8

10. ABC üçgeni ve içteğet çemberi verilmiştir.
 T, teğet değme noktası
 $IBT = 4$ cm
 $ITC = 6$ cm ise çemberin yarıçapı kaç cm dir?



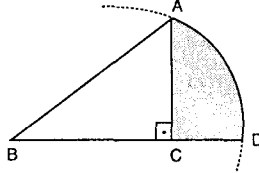
A) 1 B) 2 C) $\frac{5}{2}$ D) 3 E) $\frac{7}{2}$

11. [BE] çap,
[CA] $\perp$ [AD]
IBCİ = 6 cm
IEDİ = 8 cm ise
taralı alanlar toplamı kaç cm^2 dir?



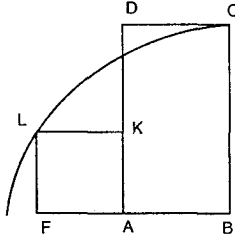
- A) $36 - \frac{25\pi}{4}$ B) $48 - \frac{25\pi}{2}$ C) $72 - \frac{25\pi}{2}$
D) $72 - \frac{25\pi}{4}$ E) $96 - \frac{15\pi}{2}$

12. ABC ikizkenar dik
üçgen ve B merkezli
[BD] yarıçaplı çember
yayı veriliyor.
IBCİ = 2 cm ise **taralı
alan kaç cm^2 dir?**



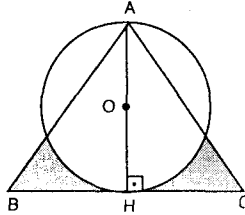
- A) π B) 2π C) $2\pi - 2$
D) $\pi - 2$ E) $\pi - 3$

13. ABCD dikdörtgen
KLFA karedir.
B merkezli, [BC] yarı-
çaplı çeyrek çember
veriliyor.
IBCİ = 25 cm
IDCİ = 17 cm
ise **A(AFLK) kaç cm^2
dır?**



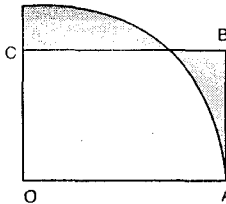
- A) 49 B) 36 C) 25 D) 16 E) 9

14. O merkez, ABC
eşkenar üçgen
IAOI = $2\sqrt{3}$ cm ise
**taralı alanlar toplamı
kaç cm^2 dir?**



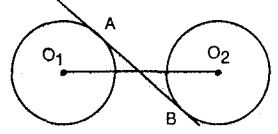
- A) $5\sqrt{3} - 2\pi$ B) $4\sqrt{3} - \pi$ C) $6\sqrt{3} - 2\pi$
D) $8\sqrt{3} - 4\pi$ E) $10\sqrt{3} - 4\pi$

15. O merkezli çeyrek çem-
ber ve OABC dikdört-
geni veriliyor.
IOAI = 4 cm ve taralı
alanlar eşit ise **IABI kaç
cm dir?**



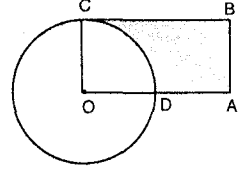
- A) $\frac{\pi}{2}$ B) π C) $\frac{3\pi}{2}$ D) 2π E) 4π

16. O_1 ve O_2 merkezli
çemberler eşit.
[AB] ortak iç teğet,
yarıçaplar 2'şer cm ve
IABI = $4\sqrt{3}$ cm ise **ta-
ralı alanlar toplamı kaç cm^2 dir?**



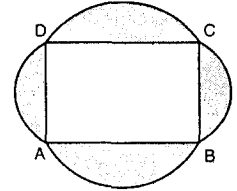
- A) $4\sqrt{3} - \frac{\pi}{3}$ B) $4\sqrt{3} - \frac{\pi}{2}$ C) $4\sqrt{3} - \pi$
D) $4\sqrt{3} - \frac{4\pi}{3}$ E) $\frac{4\sqrt{3}}{3}$

17. O merkezli çemberde
OABC dikdörtgendir.
IOCI = IDAI ve taralı alan
 $8 - \pi \text{ cm}^2$ ise
**çemberin yarıçapı kaç
cm dir?**



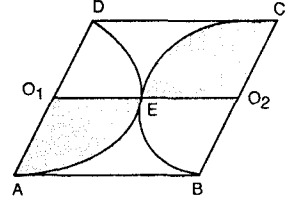
- A) 5 B) 4 C) 3 D) $\frac{3}{2}$ E) 2

18. ABCD dikdörtgen
ve [AD], [DC], [CB] ve
[AB] çaplı yarım çemberler
veriliyor.
IDCI = 2IADI ise
**taralı alanlar toplamı,
ABCD dikdörtgeninin alanını kaç katıdır?**



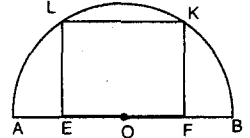
- A) $\frac{5\pi}{8}$ B) $\frac{5\pi}{9}$ C) $\frac{5\pi}{12}$ D) $\frac{5\pi}{14}$ E) $\frac{5\pi}{16}$

19. ABCD paralelke-
nar, O_1 ve O_2
merkezli daireler E
noktasından dıştan
teğettirler.
[AD] ve [BC] çap,
IABI = 4 cm ise
taralı alanlar toplamı kaç cm^2 dir?



- A) 2π B) $\frac{4\pi}{3}$ C) $\frac{\pi}{3}$ D) $\frac{3\pi}{2}$ E) $\frac{\pi}{2}$

20. O merkezli yarım daire
ve EFKL karesi verili-
yor. Yarım dairenin
alanı, karenin alanının
kaç katıdır?



- A) $\frac{5\pi}{32}$ B) $\frac{8\pi}{3}$ C) $\frac{5\pi}{8}$ D) $\frac{5\pi}{4}$ E) $\frac{4\pi}{3}$

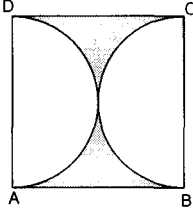
ÇEMBERDE ÇEVRE ALAN VE BENZERLİK

TEST

6

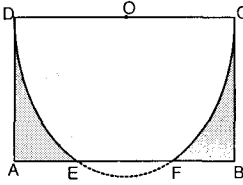
1. ABCD kare
[AD] ve [BC] çaplı çemberler dıştan teğet, $|AB| = 4$ cm ise, **taralı alan kaç cm'dir?**

A) $16 - 4\pi$ B) $16 - 3\pi$
C) $16 - 2\pi$ D) $16 - \pi$
E) $16 - \frac{\pi}{2}$



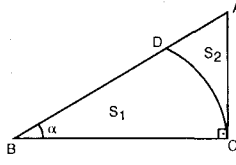
2. ABCD dikdörtgen, O merkezli çemberde
 $m(\widehat{DE}) = m(\widehat{CF}) = 60^\circ$
ve $|BC| = 2\sqrt{3}$ cm ise **taralı alanlar toplamı kaç cm² dir?**

A) $16\sqrt{3} - \frac{16\pi}{3}$ B) $12\sqrt{3} - \frac{16\pi}{3}$
C) $16\sqrt{3} - \frac{4\pi}{3}$ D) $12\sqrt{3} - \frac{5\pi}{3}$
E) $16\sqrt{3} - \frac{\pi}{3}$



3. B merkezli, [BC] yarıçaplı çember yayı [AB]'yi D'de kesiyor.
 $m(\widehat{ABC}) = \alpha$ radyan ve
 $S_2 = 2S_1$ ise $\frac{\tan \alpha}{\alpha}$ **oranı kaçtır?**

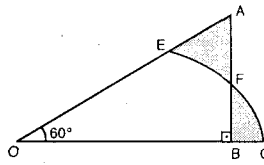
A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) $\frac{5}{2}$ E) 3



4. O merkezli, [OC] yarıçaplı çember yayı ABO dik üçgeninin [AB] kenarını F'de kesiyor.

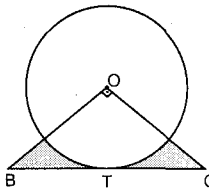
$m(\widehat{AOC}) = 60^\circ$,
 $|OE| = 1$ cm ve taralı alanlar birbirine eşit ise, **|OB| kaç cm'dir?**

A) $\sqrt[4]{\frac{\pi}{27}}$ B) $\sqrt{\frac{\pi}{27}}$ C) $\sqrt{\frac{\pi^2}{27}}$
D) $\sqrt[4]{\frac{\pi^2}{27}}$ E) $\sqrt[4]{\frac{1}{27}}$



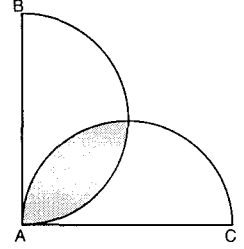
5. O merkezli çemberde
 $\triangle OBC$ dik üçgen
 $|BT| = 4$ cm
 $|TC| = 9$ cm ise **taralı alanlar toplamı kaç cm² dir?**

A) $39 - 7\pi$ B) $39 - 8\pi$ C) $39 - 9\pi$
D) $39 - 10\pi$ E) $39 - 12\pi$



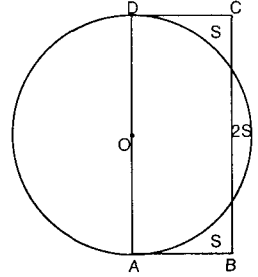
6. [AB] ve [AC] çaplı çemberler kesişiyor.
[AB] $\perp$ [AC] ve
 $|AB| = |AC| = 4$ cm ise **taralı alan kaç cm² dir?**

A) $\pi - 2$ B) $2\pi - 4$ C) $2\pi - 6$
D) $3\pi - 2$ E) $\pi + 2$



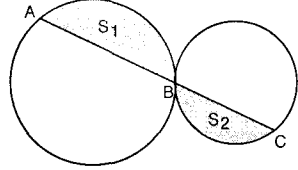
7. O merkezli çemberde ABCD dikdörtgen S ve 2S içinde bulundukları bölgelerin alanları
 $|OA| = 8$ cm ise **|AB| kaç cm'dir?**

A) $\frac{1}{2}$ B) 2 C) π D) $\frac{3\pi}{2}$ E) 2π



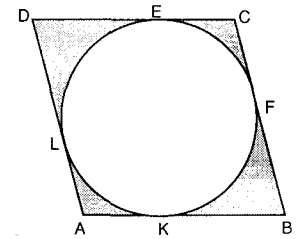
8. Çemberler B noktasında teğet, yarıçaplar oranı $\frac{3}{4}$ ise
 $\frac{S_1}{S_2}$ **oranı kaç olabilir?**

A) $\frac{1}{2}$ B) $\frac{3}{4}$ C) $\frac{16}{9}$ D) $\frac{16}{25}$ E) $\frac{25}{36}$



9. ABCD eşkenar dörtgen, çember kenarlara teğet,
 $|AD| = 10$ cm,
 $|EC| = 1$ cm ise, **taralı alanlar toplamı kaç cm² dir?**

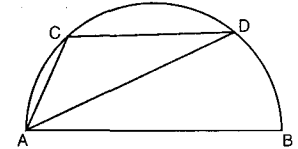
A) $20 - \pi$ B) $40 - 4\pi$ C) $80 - 16\pi$
D) $60 - 9\pi$ E) $100 - 25\pi$



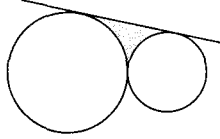
10. [AB] çap
[CD] $\parallel$ [AB],
 $|AC| = 15$ cm
 $|AD| = 20$ cm ise

$\triangle A(ACD)$ **kaç cm² dir?**

A) 42 B) 44 C) 48 D) 60 E) 84

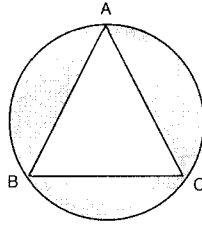


11. Dıştan teğet çemberlerin yarıçapları 6 cm ve 2 cm taralı bölgenin alanı kaç cm^2 'dir?



- A) $16\sqrt{3} - \frac{19\pi}{3}$ B) $16\sqrt{3} - \frac{17\pi}{2}$
C) $16\sqrt{3} - 2\pi$ D) $16\sqrt{3} - \frac{22\pi}{3}$
E) $16\sqrt{3}$

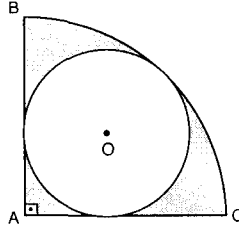
12. $|AB| = |BC| = |AC| = 6$ birim ise taralı alan kaç birim-karedir?



- A) $12\pi - 8\sqrt{3}$ B) $12\pi - 9\sqrt{3}$
C) $10\pi - 6\sqrt{3}$ D) $8\pi - \sqrt{3}$
E) $6\pi - 2\sqrt{3}$

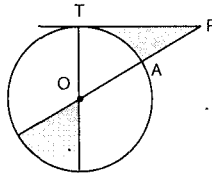
13. A merkezli çeyrek çember içine teğet olacak şekilde O merkezli çember yerleştiriliyor.

$|AC| = 2\sqrt{2} + 2$ br ise taralı alan kaç br^2 'dir?



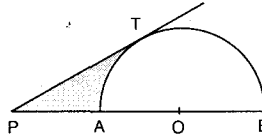
- A) $(2\sqrt{2} - 1)\pi$ B) $(\sqrt{2} - 1)\pi$
C) $(\sqrt{2} + 1)\pi$ D) $\sqrt{2}\pi$
E) $2\sqrt{2} - \pi$

14. O merkezli çemberde [PT], T'de teğet $|PT| = 4$ cm, $|PA| = 2$ cm ise taralı alanlar toplamı kaç cm^2 'dir?



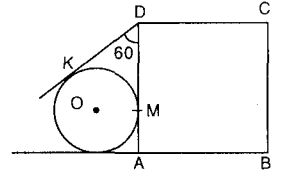
- A) $\frac{\pi}{2}$ B) $6 - \pi$ C) 3 D) 4 E) 6

15. O merkez [PT, çembere T'de teğet $|AB| = |PO| = 2$ br ise taralı alan kaç r^2 'dir?



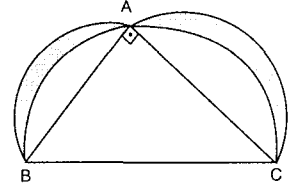
- A) $\frac{\sqrt{3}}{2}$ B) $\frac{4\sqrt{3} - \pi}{6}$ C) $\frac{\sqrt{3}}{2} - \frac{\pi}{6}$
D) $\frac{\sqrt{3}}{2} - \frac{\pi}{8}$ E) $2\sqrt{3} - \frac{\pi}{6}$

16. ABCD kare ve [DK] ile [DA] çembere sırasıyla K ve M noktalarında teğettir. $A(ABCD) = 16 \text{ cm}^2$
 $m(\widehat{KDA}) = 60^\circ$ O merkezli dairenin alanı kaç $\pi \text{ cm}^2$ 'dir?



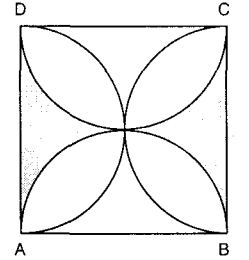
- A) $24 - 8\sqrt{3}$ B) $18 - 8\sqrt{3}$ C) $16 - 8\sqrt{3}$
D) $12 - 4\sqrt{3}$ E) $12 - 2\sqrt{3}$

17. [BC] çaplı, [AB] çaplı ve [AC] çaplı yarım çember yayları verilmiştir. $|BC| = 5$ cm, $|AC| = 4$ cm ise taralı alanlar toplamı kaç cm^2 'dir?



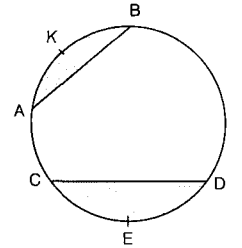
- A) 12 B) 6 C) $12 - \pi$
D) $12 - 2\pi$ E) $6 + \pi$

18. ABCD kare ve yarım daire dilimleri ikişerli teğettir. $|AB| = 8$ cm ise taralı alanlar toplamı kaç cm^2 'dir?



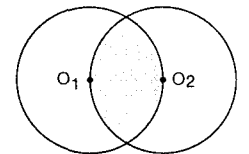
- A) $8\pi - 8$ B) $8\pi - 16$ C) $32 - 8\pi$
D) $64 - 16\pi$ E) 32

19. $|AB| = 4$ cm, $|CD| = 6$ cm
 $m(\widehat{AKB}) + m(\widehat{DEC}) = 180^\circ$ ise taralı alanlar toplamı kaç cm^2 'dir?



- A) $\frac{13\pi}{2} - 12$ B) $8\pi - 12$ C) $13\pi - 12$
D) $26\pi - 12$ E) $26\pi - 18$

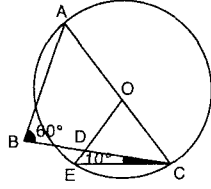
20. O ve O_2 merkezli çemberler eşit. $|O_1O_2| = 2$ cm ise taralı alan kaç cm^2 'dir?



- A) $\frac{20\pi}{3} - 6\sqrt{3}$ B) $8\pi - 4\sqrt{3}$
C) $\frac{16\pi}{3} - 4\sqrt{3}$ D) $4\pi - 2\sqrt{3}$
E) $\frac{8\pi}{3} - 2\sqrt{3}$

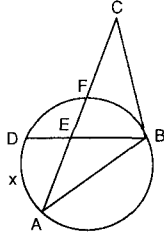
TARAMA - 1

1. Şekilde $m(\widehat{ABC}) = 60^\circ$ ve $m(\widehat{BCE}) = 10^\circ$ dir. $[AB] \parallel [OE]$ ve O merkez olduğuna göre $m(\widehat{BAC})$ kaç derecedir?



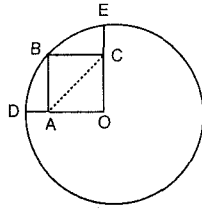
A) 65 B) 70 C) 75 D) 80 E) 85

2. BC çembere B noktasında teğettir. $m(\widehat{C}) = 50^\circ$, $m(\widehat{DF}) = 90^\circ$, $m(\widehat{BF}) = 60^\circ$, $m(\widehat{DA}) = x$ kaç derecedir?



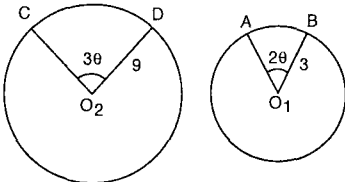
A) 35 B) 40 C) 45 D) 50 E) 55

3. Şekildeki O merkezli çemberde AOCB kare ise $\frac{IACI}{IADI}$ oranı aşağıdakilerden hangisidir?



A) $\sqrt{2}$ B) $2 + \sqrt{2}$ C) $2\sqrt{2}$
D) $2 - \sqrt{2}$ E) $4\sqrt{2}$

4.

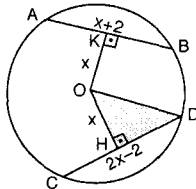


Şekildeki O_1 ve O_2 merkezli çemberlerin yarıçapları 3 ve 9 br, merkez açıları 2θ ve 3θ olduğuna göre

$\frac{IABI}{ICDI}$ oranı aşağıdakilerden hangisine eşittir?

A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) $\frac{4}{9}$ D) $\frac{2}{9}$ E) $\frac{1}{6}$

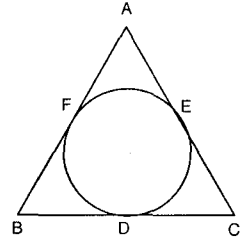
5. Şekilde $[OK] \perp [AB]$
 $[OH] \perp [CD]$
 $IOK = IOH = x$ br
 $IAB = x + 2$ br
 $ICD = 2x - 2$ br



ise $A(OHD)$ kaç br² dir?

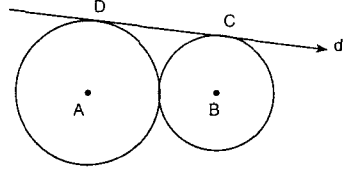
A) 2 B) 4 C) 5 D) 6 E) 8

6. Şekilde $IAEI = 2\sqrt{3}$ ve $m(\widehat{A}) = 60^\circ$ ise içteğet çemberin çevresi kaç br'dir?



A) 2π B) 3π C) 4π D) 6π E) 9π

7. A ve B merkezli çemberler dıştan teğet, DC ortak dış teğettir.



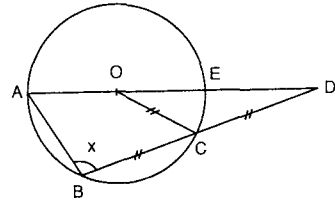
$IADI = 3IBCI$ ve $IDCI = 4\sqrt{3}$ olduğuna göre A merkezli çemberin yarıçapı kaçtır?

A) 2 B) 3 C) 4 D) 5 E) 6

8. Yarıçapı 4 cm olan bir daire kesmesinin alanı 2π cm² ise bu kesmeye alt yayı gören çevre açısı kaç derecedir?

A) 15 B) 22,5 C) 25 D) 27,5 E) 30

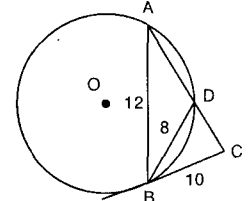
9.



Şekildeki, O merkezli çemberde, $IBCI = ICDI = IOCI$ ise $m(\widehat{ABD}) = x$ kaç derecedir?

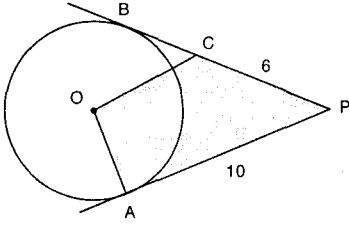
A) 90 B) 95 C) 100 D) 105 E) 110

10. Şekildeki O merkezli çemberde, $IAB = 12$ br, $IBC = 10$ br, $IBD = 8$ br ise $IACI$ aşağıdakilerden hangisidir?



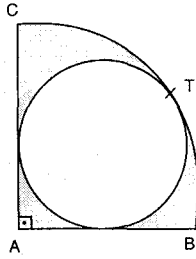
A) 15 B) 16 C) 18 D) 20 E) 21

11. Şekilde O merkezli çemberde PB ve PA teğetlerdir. $IPCI = 6$ br, $IPAI = 10$ br ve yarıçap 8 br olduğuna göre taralı alan kaç br^2 dir?



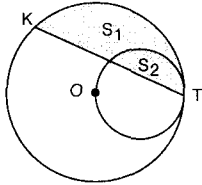
A) 40 B) 64 C) 72 D) 80 E) 96

12. Şekildeki A merkezli çeyrek çemberde, küçük çemberin yarıçapı $4(\sqrt{2} - 1)$ cm ise taralı alan kaç πcm^2 dir?



A) $32\sqrt{2} - 44$ B) $32 - 44\sqrt{2}$ C) $44 - 3\sqrt{2}$
D) $32\sqrt{2} - \pi$ E) $32\sqrt{2}$

13. O, büyük çemberin merkezi ve küçük çemberin yayı üzerinde olup çemberler birbirine T noktasında içten teğettir. Buna göre $S_2 = 4 cm^2$ ise S_1 alanı kaç cm^2 dir?

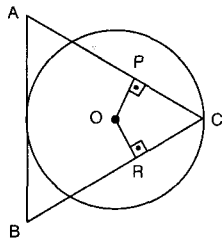


A) 8 B) 10 C) 12 D) 14 E) 16

14. ABC eşkenar üçgen O merkez, $IOPI = 2$ br $IORI = 3$ br

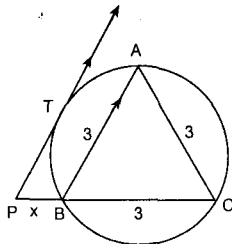
$$A(\triangle ABC) = \frac{100\sqrt{3}}{3} br^2$$

olduğuna göre dairenin alanı aşağıdakilerden hangisidir?



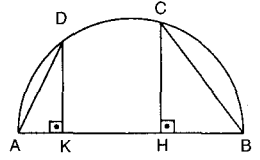
A) 16π B) 25π C) 36π D) 45π E) 49π

15. Şekilde ABC bir kenarı 3 br olan eşkenar üçgendir. [PT] teğeti AB kenarına paraleldir. $IPBI = x$ uzunluğu kaç br'dir?



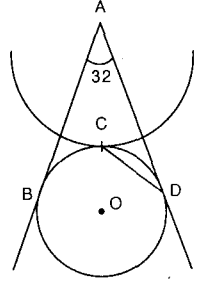
A) 1 B) 2 C) $\frac{3}{2}$ D) $\frac{1}{2}$ E) $\frac{5}{2}$

16. [AB] çaplı çemberde, $[DK] \perp [AB]$, $[CH] \perp [AB]$ $3IDA = 2IBC$ olduğuna göre, $\frac{IHBI}{IAKI}$ nedir?



A) $\frac{9}{4}$ B) 2 C) $\frac{3}{2}$ D) $\frac{5}{3}$ E) 1

17. A merkezli çember yayı ile O merkezli çember C'de teğettir. [AB] ve [AD], O merkezli çembere B ve D'de teğettir.

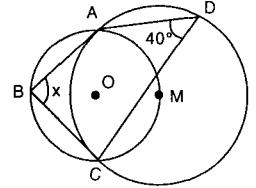


$m(\widehat{BAD}) = 32^\circ$ ise

$m(\widehat{CDA})$ kaç derecedir?

A) 30 B) 32 C) 34 D) 36 E) 37

18. Şekildeki O merkezli çember üzerindeki M noktası büyük çemberin merkezidir.

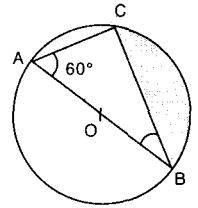


$m(\widehat{ADC}) = 40^\circ$ ise

$m(\widehat{ABC}) = x$ kaç derecedir?

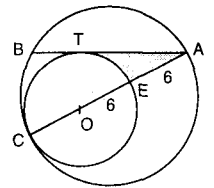
A) 60 B) 80 C) 100 D) 120 E) 140

19. Şekildeki O merkezli çemberde $IOBI = 2$ br ve $m(\widehat{CAB}) = 60^\circ$ ise taralı alan kaç br^2 dir?



A) $\frac{4\pi}{3} - 2\sqrt{3}$ B) $\frac{4\pi}{3} - \sqrt{3}$
C) $\frac{4\pi}{3} + \sqrt{3}$ D) $\frac{16\pi}{3} - 2\sqrt{3}$
E) $\frac{16\pi}{3} - \sqrt{3}$

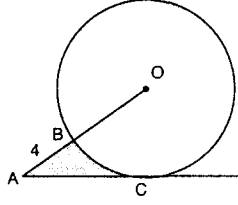
20. Şekildeki O noktası küçük çemberin merkezi ve AB doğru parçası teğettir. $IOEI = IEAI = 6$ br ise taralı alan kaç br^2 dir?



A) $3(6\sqrt{3} - 2\pi)$ B) $3(3\sqrt{3} + 2\pi)$
C) $6(3\sqrt{3} - \pi)$ D) $6(3\sqrt{3} + 2\pi)$
E) $6(\sqrt{3} - 2\pi)$

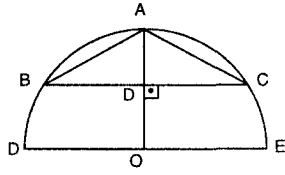
TARAMA - 2

1. Şekildeki O merkezli çembere [AC, C'de teğettir. $|AB| = |BO| = 4$ br ise taralı alan kaç br^2 'dir?



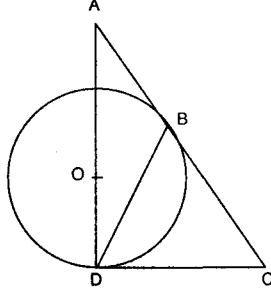
- A) $8\sqrt{3}$ B) $\frac{8\pi}{3}$ C) $8\sqrt{3} - \frac{8\pi}{3}$
D) $8\sqrt{3} - \frac{\pi}{3}$ E) $8\sqrt{3} - \frac{4\pi}{3}$

2. Şekildeki O merkezli yarım çemberin çevresi 5π br, $[OA] \perp [BC]$ ve $|AB| = 5$ br ise $\Delta A(ABC)$ kaç br^2 dir?



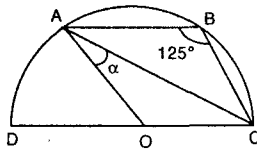
- A) $\frac{15\sqrt{3}}{4}$ B) $\frac{17\sqrt{3}}{4}$ C) $\frac{21\sqrt{3}}{4}$
D) $\frac{25\sqrt{3}}{4}$ E) $\frac{30\sqrt{3}}{4}$

3. O merkezli çemberde [AC] ve [CD] çembere B ve D'de teğettirler. $m(\widehat{DBC}) = 80^\circ$ ise $m(\widehat{DAC})$ kaç derecedir?



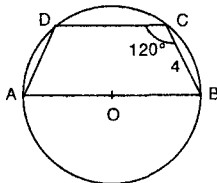
- A) 50 B) 60 C) 65 D) 70 E) 75

4. O merkezli çemberde CD çap $m(\widehat{ABC}) = 125^\circ$ ise $m(\widehat{OAC}) = \alpha$ kaç derecedir?



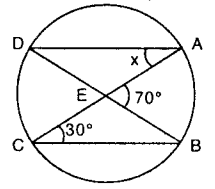
- A) 30 B) 35 C) 40 D) 45 E) 50

5. Şekildeki O merkezli çemberde $[AB] \parallel [CD]$ ve $|BC| = 4$ cm, $m(\widehat{C}) = 120^\circ$ ise çemberin yarıçapı kaç cm'dir?



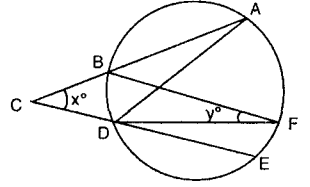
- A) 2 B) 3 C) 4 D) 5 E) 6

6. Şekilde; $m(\widehat{AEB}) = 70^\circ$ $m(\widehat{ACB}) = 30^\circ$ olduğuna göre $m(\widehat{DAC}) = x$ kaç derecedir?



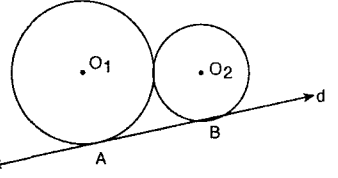
- A) 30 B) 40 C) 50 D) 60 E) 70

7. Şekilde AF yayının ölçüsü 26° ve FE yayının ölçüsü 14° dir. C açısı x° ve F açısı y° ise $x + y$ kaç derecedir?



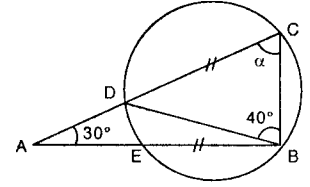
- A) 10 B) 14 C) 16 D) 18 E) 20

8. Şekildeki O_1 ve O_2 merkezli çemberler d doğrusuna A ve B'de teğettir. O_2 merkezli çemberin yarıçapı 5 cm ve $|AB| = 14$ cm ise O_1 merkezli çemberin yarıçapı kaç cm'dir?



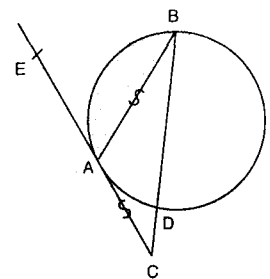
- A) 8 B) 9,4 C) 9,6 D) 9,8 E) 10

9. Şekildeki çemberde $|DC| = |EB|$, $m(\widehat{CBD}) = 40^\circ$ $m(\widehat{CAB}) = 30^\circ$ ise $m(\widehat{BCD}) = \alpha$ kaç derecedir?



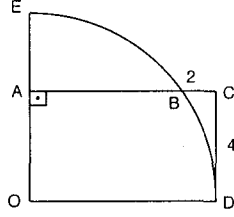
- A) 60 B) 65 C) 70 D) 75 E) 80

10. Şekilde [CE çembere A noktasında teğet, [BD] çap $|AB| = |AC| = 12$ br olduğuna göre; taralı bölgenin alanı kaç br^2 'dir?



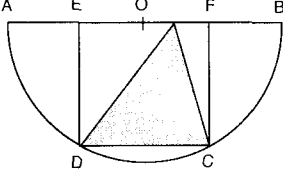
- A) $4(4\pi - \sqrt{3})$ B) $4(4\pi - 3\sqrt{3})$
C) $16\pi - \sqrt{3}$ D) $3(4\pi - \sqrt{3})$
E) $3(4\pi - \sqrt{3})$

11. Şekilde O merkezli dairede, $[OE] \perp [AC]$, $[AC] \perp [CD]$, CD teğet, $IBCI = 2$ br ve $ICDI = 4$ br ise **çeyrek dairenin alanı kaç br²dir?**



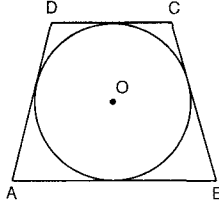
- A) $\frac{25\pi}{8}$ B) $\frac{25\pi}{7}$ C) $\frac{25\pi}{4}$ D) $\frac{25\pi}{2}$ E) 25π

12. Merkezi O, çapı $[AB]$ olan yarım çemberde CDEF bir karedir. $IABI = 20$ cm olduğuna göre **taralı üçgenin alanı kaç cm²dir?**



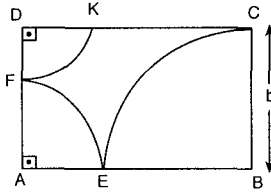
- A) 5 B) 10 C) 20 D) 30 E) 40

13. Şekilde ABCD ikizkenar yamuğun içteğet çemberi çizilmiştir. $IABI = 20$ cm, $IDCI = 4$ cm ise **dairenin alanı kaç cm²dir?**



- A) 8π B) 12π C) 20π D) 22π E) 25π

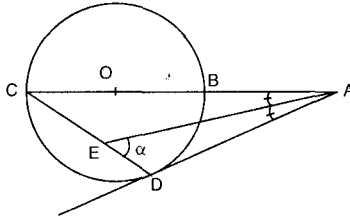
14. Şekildeki ABCD dikdörtgeninin içersine A, B ve D merkezli çeyrek çemberler çizilmiştir. $IDFI = IFAI$



$\widehat{IEC} + \widehat{IEF} + \widehat{FK} = 24\pi$ olduğuna göre ve $ICBI = b$ br ise **b kaçtır?**

- A) 10 B) 12 C) 16 D) 18 E) 24

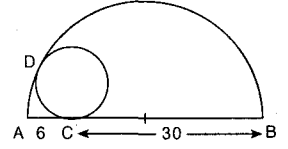
15. Şekilde $[BC]$ çaptır. $[AD]$ çemberin teğeti, $[AE]$ açıortaydır.



Buna göre α açısının ölçüsü kaç derecedir?

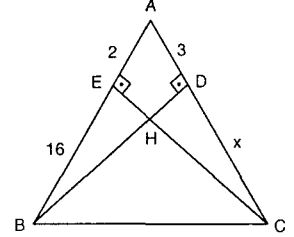
- A) 30 B) 45 C) 50 D) 60 E) 75

16. $[AB]$ çaplı yarım çemberde, C, D değme noktaları, $IACI = 6$ br, $IBCI = 30$ br olduğuna göre **küçük çemberin yarıçapı kaç birimdir?**



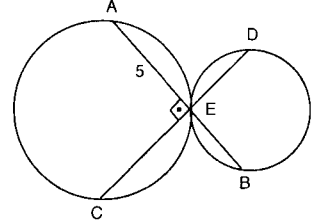
- A) 5 B) 6 C) 7 D) 8 E) 9

17. ABC üçgeninde H diklik merkezi $IAEI = 2$ cm, $IA DI = 3$ cm, $IEBI = 16$ cm, **IDCI = x kaç cm'dir?**



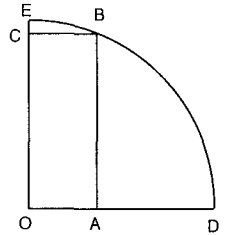
- A) 6 B) 8 C) 9 D) 12 E) 15

18. Şekildeki çemberler E'de teğet $[AB] \perp [CD]$ $IAEI = 5$ br ve büyük çemberin çapı 13 br ve küçükünün çapı $\frac{13}{3}$ br ise **$[CD]$ kaç br'dir?**



- A) 10 B) 12 C) 14 D) 16 E) 18

19. Şekilde O merkezli çeyrek çember ve OABC dikdörtgeni çizilmiştir. $IECI = 2$ br ve $IOAI + 1 = IADI$ olduğuna göre **IODI kaç br'dir?**



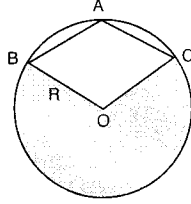
- A) 12 B) 13 C) 15 D) 17 E) 20

20. Merkezleri arası uzaklık 36 br olan, R_1 ve R_2 br yarıçaplı eş düzlemli iki çember, farklı iki noktada kesişmektedir. $\frac{R_1}{R_2} = \frac{1}{3}$ olduğuna göre **R_1 için aşağıdakilerden hangisi doğrudur?**

- A) $4 < R_1 < 6$ B) $9 < R_1 < 12$
C) $9 < R_1 < 18$ D) $12 < R_1 < 18$
E) $12 < R_1 < 36$

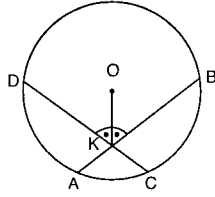
TARAMA - 3

1. Şekilde $m(\widehat{BOC}) = m(\widehat{BAC})$ ve çemberin yarıçapı $R = 6$ cm olduğuna göre taralı bölgenin alanı kaç cm^2 'dir?



A) 3π B) 8π C) 12π D) 20π E) 24π

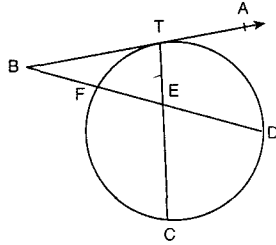
2. Şekildeki O merkezli çemberde,
 $IKBI = 4x - 5$ br
 $IKAI = 2x - 15$ br
 $IKCI = x - 1$ br,



$IKDI = x - 3$ br ve $\widehat{DKB}$ açısının açıortayı merkezden geçtiğine göre $\widehat{ICDI}$ ve $\widehat{ABI}$ kirislerinin uzunlukları toplamı kaçtır?

A) 5 B) 6 C) 7 D) 8 E) 9

3. AB doğrusu çembere T'de teğet, $IBTI = IBEI = IECI$ $IBFI = 2$ cm, $IFDI = 6$ cm ise $\widehat{ITEI}$ kaç cm' -dir?

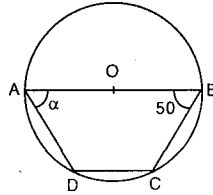


A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

4. O merkezli çemberde;
 $\widehat{IDCI} = \frac{1}{2} \widehat{ABI}$,

$m(\widehat{CBO}) = 50^\circ$ ise

$m(\widehat{DAO})$ kaç derecedir?



A) 80 B) 70 C) 60 D) 50 E) 40

5. O merkezli yarım çemberde, [OE] çembere T'de teğet

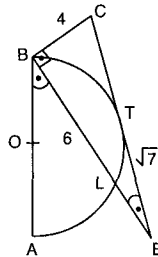
$m(\widehat{ABL}) = m(\widehat{BEC})$

$[BC] \perp [BE]$,

$IBC = 4$ cm

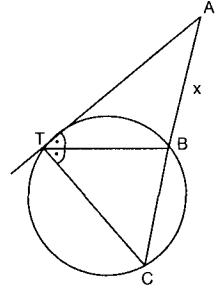
$IBL = 6$ cm,

$ITE = \sqrt{7}$ cm ise çemberin yarıçapı kaç cm' 'dir?



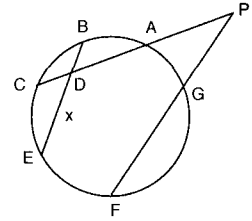
A) $\frac{\sqrt{65}}{3}$ B) $\frac{2\sqrt{65}}{5}$ C) $\frac{3\sqrt{65}}{7}$
D) 3 E) $\frac{\sqrt{65}}{2}$

6. Şekilde [AT] çembere teğet, [TB], ATC açısının açıortayıdır. $ITCI = 4$ cm, $IATI = 8$ cm ise $\widehat{ABI} = x$ kaç cm' 'dir?



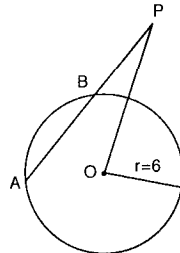
A) 8 B) $\frac{8\sqrt{6}}{3}$ C) $8\sqrt{2}$
D) $10\sqrt{2}$ E) 12

7. Yandaki şekilde $IPAI = IADI = 6$ br, $IPGI = 8$ br, $IGFI = 4$ br, $IBDI = 3$ br ise $\widehat{IDEI} = x$ kaç br' 'dir?



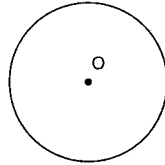
A) 5 B) 6 C) 7 D) 8 E) 9

8. Şekildeki O merkezli çemberde;
 $IPBI = 5$ cm,
 $IPAI = 9$ cm,
 $r = 6$ cm ise $\widehat{IOPI}$ kaç cm' 'dir?



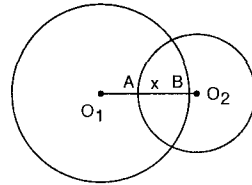
A) $2\sqrt{22}$ B) 9 C) $\sqrt{78}$
D) 8 E) $\frac{5\sqrt{22}}{2}$

9. O merkezli çemberin içinde bir K noktası alınıyor. K'dan geçen en kısa kirişin uzunluğu 8 cm, K'dan geçen en uzun kiriş 10 cm ise $\widehat{IOKI}$ kaç cm' 'dir?



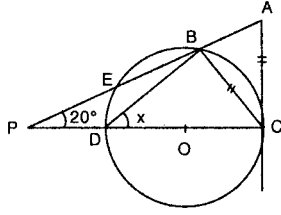
A) 9 B) 7 C) 6 D) 4 E) 3

10. Şekildeki çemberler dik kesismektedir. O_1 ve O_2 merkezli çemberlerin yarıçapları sırasıyla 12 ve 5 br ise $\widehat{ABI} = x$ kaç br' 'dir?



A) 1 B) $\frac{3}{2}$ C) 2 D) 3 E) 4

11. Şekildeki O merkezli çemberde [AC] çembere C'de teğettir. $ICA = ICB$,

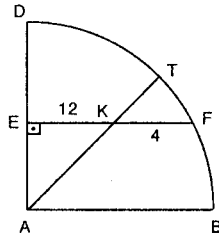


$$m(\hat{BPC}) = 20^\circ \text{ ise}$$

$m(\hat{BDC}) = x$ kaç derecedir?

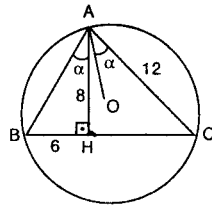
- A) 50 B) 40 C) 35 D) 30 E) 25

12. Şekildeki A merkezli dörtte bir çemberde T, $\widehat{DB}$ nin ortasıdır. $[FE] \perp [AD]$ olup $IEKI = 12$ br, $IKFI = 4$ br ise **IDEI** uzunluğu kaç br'dir?



- A) 10 B) 9 C) 8 D) 7 E) 6

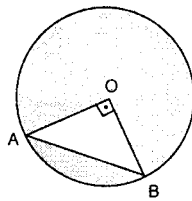
13. Şekildeki O merkezli çemberde $[AH] \perp [BC]$, $m(\hat{BAH}) = m(\hat{OAC})$ $IBHI = 6$ br, $IAHI = 8$ br $IACI = 12$ br ise **IOAI** kaç br'dir?



- A) 6 B) 6,5 C) 7 D) 7,5 E) 8

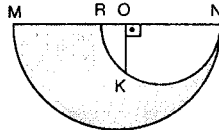
14. Şekildeki O merkezli çemberde,

$[OA] \perp [OB]$ ve taralı alan $(4\pi - 2) \text{ cm}^2$ ise **dairenin yarıçapı kaç cm'dir?**



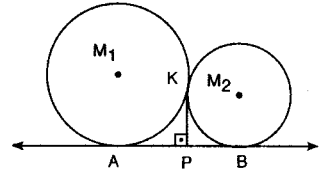
- A) 1 B) $\sqrt{2}$ C) 2 D) $\sqrt{3}$ E) $2\sqrt{3}$

15. $[MN]$ dıştaki yarım çemberin, $[NR]$ içteki yarım çemberin çapıdır. O merkez $[OK] \perp [MN]$, $IMNI = 24$ br, $IOKI = 4\sqrt{3}$ br ise **taralı alan aşağıdakilerden hangisidir?**



- A) 12π B) 24π C) 30π D) 36π E) 40π

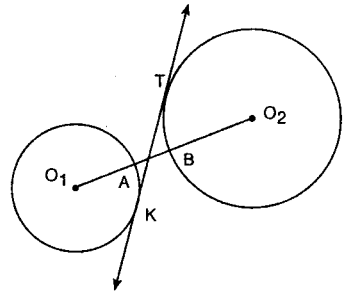
16. M_1 ve M_2 merkezli çemberler K'da dıştan teğettir. AB çemberlerin ortak dış teğet doğrusu,



$[PK] \perp [AB]$ 'dir. M_2 merkezli çemberin yarıçapı 8 br, M_1 merkezli çemberin yarıçapı 10 br ise, **IPKI kaç br'dir?**

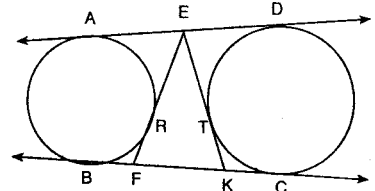
- A) $5\sqrt{5}$ B) $4\sqrt{5}$ C) $3\sqrt{5}$ D) $2\sqrt{5}$ E) $\sqrt{5}$

17. Şekilde O_1 ve O_2 merkezli çemberlerin ortak teğetleri KT doğrusudur. $IO_1AI = 4$ br, $IO_2BI = 8$ br, $IABI = 1$ br olduğuna göre **IKTI** aşağıdakilerden hangisidir?



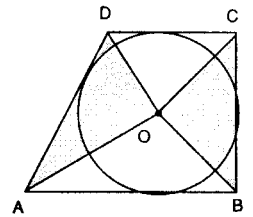
- A) 4 B) 5 C) 8 D) 9 E) 12

18. AD ve BC şekildedeki çemberlerin ortak teğeti olup, A, B, C, D teğetin değme noktalarıdır. $IADI = 12$ br ise **EFK üçgeninin çevresi kaç br'dir?**



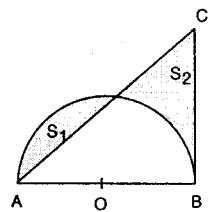
- A) 6 B) 9 C) 12 D) 18 E) 24

19. ABCD teğetler dörtgeni ve O merkezdir. $A(ABCD) = 25 \text{ br}^2$ ise **taralı alanlar toplamı kaç br²dir?**



- A) 20 B) 16 C) 15 D) 12,5 E) 10

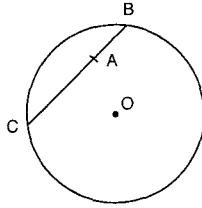
20. Şekildeki O merkezli $[AB]$ çaplı çemberde B teğet değme noktası, S_1 ve S_2 alanları birbirine eşit olup $IAOI = 24$ br ise **$[BC]$ teğet uzunluğu kaç br'dir?**



- A) 4π B) 6π C) 8π D) 12π E) 24π

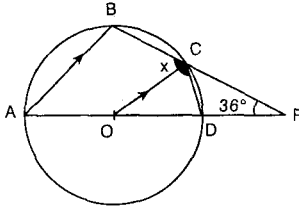
TARAMA - 4

1. Şekildeki A noktasından geçen en kısa kirişin uzunluğu 16 br, $|AB| = 4$ br ise $|AC|$ kaç br'dir?



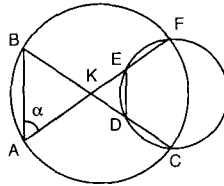
A) 8 B) 10 C) 12 D) 14 E) 16

2. Şekilde $[OC] \parallel [AB]$
 $m(\hat{F}) = 36^\circ$ ve
 O merkez olduğuna göre
 $m(\hat{BCD}) = x$ kaç derecedir?



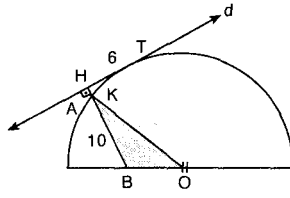
A) 120 B) 132 C) 144 D) 150 E) 156

3. Şekilde $m(\hat{DEF}) = 137^\circ$
 ise $m(\hat{BAF}) = \alpha$ kaç derecedir?



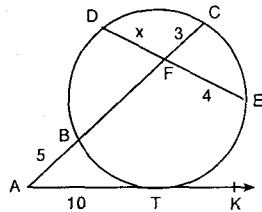
A) 35 B) 36 C) 38 D) 40 E) 43

4. Şekildeki O merkezli yarım çemberde, d doğrusu T'de çembere teğet, $[HB] \perp d$
 $|HT| = 6$ cm,
 $|AB| = 10$ cm ise
 $A(KBO)$ kaç cm^2 'dir?



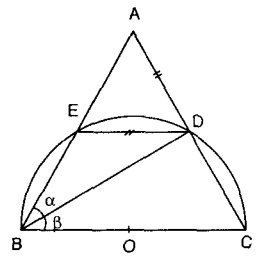
A) 10 B) 15 C) 25 D) 30 E) 40

5. Şekilde $[AK]$ çembere T'de teğet $|AB| = 5$ br
 $|AT| = 10$ br
 $|EF| = 4$ br
 $|FC| = 3$ br olduğuna göre $|DF| = x$ ise x kaç br'dir?



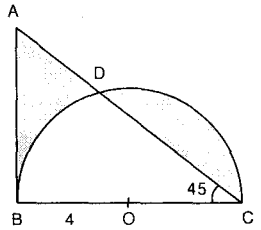
A) 6 B) 9 C) 12 D) 15 E) 18

6. Şekildeki O merkezli çemberde
 $|AD| = |ED|$ ve
 $m(\hat{ABD}) = \alpha^\circ$,
 $m(\hat{DBC}) = \beta^\circ$ ise $\frac{\alpha}{\beta}$
 oranı kaçtır?



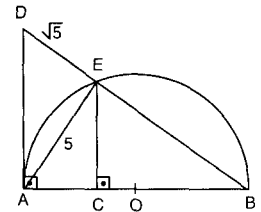
A) $\frac{1}{4}$ B) $\frac{1}{3}$ C) $\frac{1}{2}$ D) 1 E) $\frac{3}{2}$

7. Şekildeki O merkezli çemberde B noktası teğetin değme noktası ve $|OB| = 4$ br ise taralı alanlar toplamı kaç br'dir?



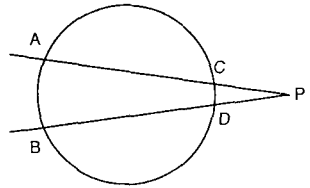
A) 16 B) 24 C) 8π D) 12π E) 24π

8. $[AB]$ çaplı çemberde $|AE| = 5$ br,
 $|DE| = \sqrt{5}$ br olduğuna göre $|AC|$ uzunluğu aşağıdakilerden hangisidir?



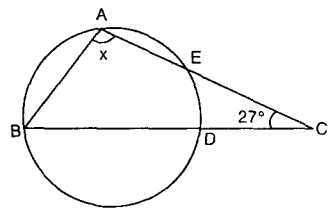
A) $\frac{5\sqrt{6}}{6}$ B) $\frac{5\sqrt{6}}{4}$ C) $\frac{4\sqrt{6}}{3}$
 D) $\frac{3\sqrt{6}}{2}$ E) $3\sqrt{6}$

9. Şekildeki çemberde $|PA| = 4$ br
 $|PB| = 6$ br olduğuna göre $\frac{|PC|}{|PD|}$
 aşağıdakilerden hangisidir?



A) $\frac{2}{3}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

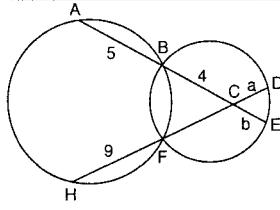
10. $[BD]$ çaplı çemberde
 $m(\hat{AE}) = m(\hat{ED})$
 ve $m(\hat{C}) = 27^\circ$
 ise
 $m(\hat{BAC}) = x$
 kaç derecedir?



A) 113 B) 111 C) 110 D) 105 E) 103

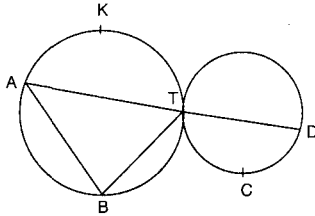
TARAMA - 5

1. Şekildeki kesişen çemberlerde,
 $|AB| = 5$ br,
 $|BC| = 4$ br,
 $|HF| = 9$ br,
 $|CD| = a$ br ve
 $|CE| = b$ br
Buna göre a ve b arasındaki bağıntı aşağıdakilerden hangisidir?



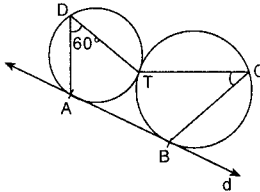
- A) $3a = b$ B) $3a = 5b$ C) $5b = 3a$
 D) $3b = 5a$ E) $5a = 6b$

2. Şekilde T noktasında teğet olan iki çember ve T'den geçen [AD] verilmiştir.
 $m(\widehat{TCD}) = 240^\circ$
 ise $m(\widehat{ABT}) = x$ kaç derecedir?



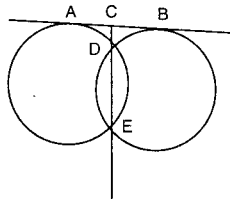
- A) 80 B) 90 C) 100 D) 120 E) 140

3. Şekildeki çemberler T noktasında birbirine, A ve B noktalarında ise d doğrusuna teğettirler.
 $m(\widehat{ADT}) = 60^\circ$ ise
 $m(\widehat{TCB})$ kaç derecedir?



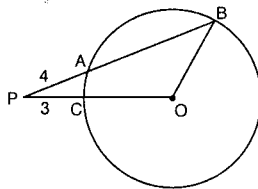
- A) 20 B) 30 C) 40 D) 45 E) 50

4. Şekildeki çemberde AB ortak teğet ve DE ortak kesiştir.
 $|AB| = 12$ br, $|CD| = 4$ br olduğuna göre $|DE|$ kaç br'dir?



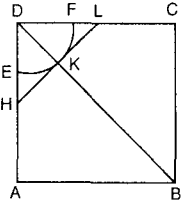
- A) 4 B) 5 C) 6 D) 7 E) 8

5. Şekildeki O merkezli çemberde,
 $|AP| = 4$ cm,
 $|CP| = 3$ cm
 $4|AB| = 5|CO|$ ise
POB üçgeninin çevresi kaç cm'dir?



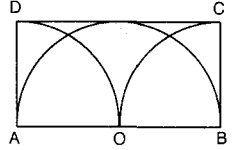
- A) 26 B) $\frac{55}{2}$ C) $\frac{113}{4}$ D) $\frac{119}{4}$ E) $\frac{121}{4}$

6. Şekilde ABCD kare,
 $|BD| = 4|KD|$ 'dir. D merkezli çember yayı K noktasında [HL]'ye teğettir. Taralı alan $(12 - 3\pi)$ br² ise **karenin alanı kaç br² dir?**



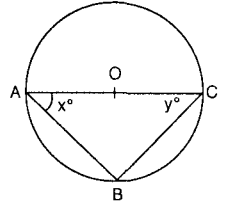
- A) 48 B) 60 C) 72 D) 80 E) 96

7. Şekildeki ABCD dikdörtgeninde
 $|AB| = 12$ br'dir. IOAI yarıçaplı, A, O ve B merkezli çemberlerin sınırladığı taralı alan kaç br² dir?



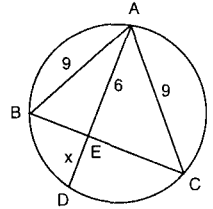
- A) $18\sqrt{3} - 6\pi$ B) $9\sqrt{3} - 6\pi$ C) $18\sqrt{3} - 3\pi$
 D) $18\sqrt{3}$ E) 6π

8. Şekildeki O merkezli çemberde
 $A(\triangle ABC) = \frac{|AC|^2}{8} \text{ br}^2$ ise $\frac{x}{y}$ oranı kaç olabilir?



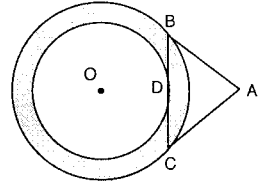
- A) 2 B) 3 C) 4 D) 5 E) 6

9. Şekilde $|AB| = |AC| = 9$ br ve $|AE| = 6$ br olduğuna göre $|ED| = x$ kaç br'dir?



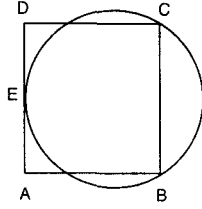
- A) 5 B) 5,5 C) 6 D) 6,5 E) 7,5

10. Şekilde O ortak merkezli iki çember ve küçük çembere D'de teğet olan ABC eşkenar üçgeni verilmiştir. $A(\triangle ABC) = 9\sqrt{3} \text{ cm}^2$ ise **taralı alan kaç cm² dir?**



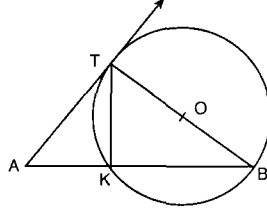
- A) 3π B) 6π C) 9π D) 10π E) 12π

11. Şekilde $IDEI = IEAI = 10$ cm ve ABCD bir kare olduğuna göre **çemberin yarıçapı kaç cm'dir?**



A) 10,5 B) 11 C) 11,5 D) 12 E) 12,5

12. Şekildeki O merkezli çemberde, [AT] çembere T noktasında teğet ve [TB] çaptır.



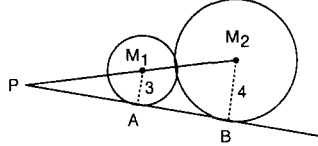
$$A(ATK) = 3br^2,$$

$$A(TKB) = 12 br^2 \text{ ise}$$

IAI uzunluğu kaç br'dir?

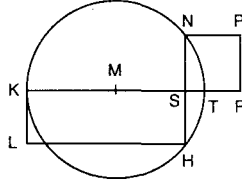
A) $2\sqrt{3}$ B) $3\sqrt{3}$ C) $4\sqrt{3}$
D) $5\sqrt{3}$ E) $6\sqrt{3}$

13. İki çember A ve B noktalarında [PB]ye teğettir. $r_1 = 3br$ $r_2 = 4 br$ ise **IPM₁I kaç br'dir?**



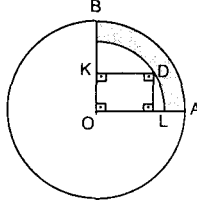
A) 18 B) 21 C) 24 D) 28 E) 30

14. Şekildeki, M merkezli çemberde $ISHI = 2ISTI$ ve PRSN karesinin alanı $24 br^2$ ise **KLHS dikdörtgeninin alanı kaç br²dir?**



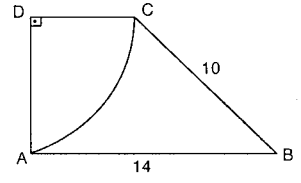
A) $4\sqrt{6}$ B) $12\sqrt{6}$ C) 20
D) 48 E) 72

15. O merkezli, tam ve çeyrek çemberde, K, [OB]'nin orta noktası L, [OA]nın orta noktası, IOKI = 2 br ise **taralı alan kaç πbr^2 dir?**



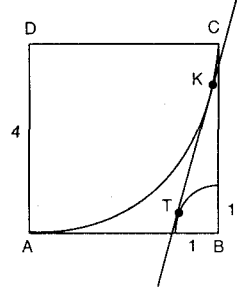
A) 2 B) 3 C) 4 D) 5 E) $\frac{11}{2}$

16. Şekildeki ABCD yamuğunda D merkezli çeyrek çember çizilmiştir. $IAI = 14 br$, $IBC = 10 br$ ise, **yamuğun yüksekliği kaç br olabilir?**



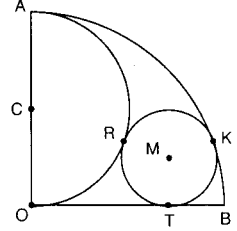
A) 4 B) 5 C) 6 D) 9 E) 10

17. ABCD kare [KT] B ve D merkezli 1 ve 4 br yarıçaplı çemberlerin ortak teğeti ise **IKTI kaç br'dir?**



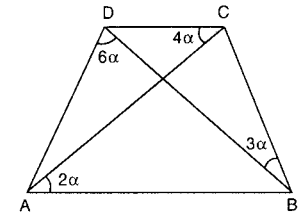
A) 3 B) $\sqrt{7}$ C) $\sqrt{6}$ D) $\sqrt{5}$ E) 2

18. O merkezli çeyrek çember, C merkezli yarım çember ve M merkezli çember K, R ve T noktalarında birbirine teğettir. $IAOI = 8 br$ ise **M merkezli çemberin yarıçapı kaç br'dir?**



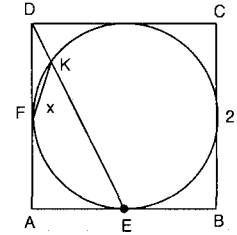
A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) 2 E) 4

19. Şekildeki ABCD kirişler dörtgeninde işaretli dört açının ölçüleri verilmiştir. **Buna göre dörtgenin DCB açısı kaç derecedir?**



A) 100 B) 120 C) 130 D) 140 E) 150

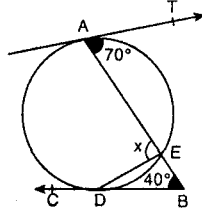
20. ABCD karesinin iç teğet çemberi çizilmiştir. $IBC = 2 br$ ise **IKFI kaç br'dir?**



A) $\frac{4\sqrt{5}}{5}$ B) 1 C) $\frac{2\sqrt{5}}{5}$
D) $\frac{\sqrt{10}}{5}$ E) $\frac{\sqrt{5}}{5}$

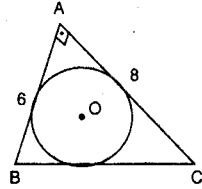
TARAMA - 6

1. [AT ve [BC çembere teğet,
 $m(\widehat{AE}) = 70^\circ$
 $m(\widehat{B}) = 40^\circ$ ise $m(\widehat{AED})$ kaç
 derecedir?



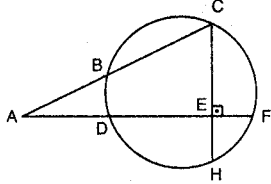
A) 60 B) 65 C) 70 D) 75 E) 110

2. Şekilde ABC üçgeninin iç
 teğet çemberi çizilmiştir.
 O merkez IAB| = 6 br ve
 IAC| = 8 br ise IOCI kaç
 br'dir?



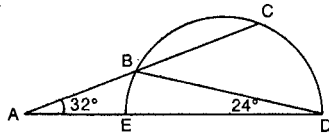
A) $2\sqrt{5}$ B) $3\sqrt{5}$ C) $2\sqrt{10}$
 D) $\sqrt{10}$ E) $4\sqrt{3}$

3. Şekilde,
 IAB| = 3 cm,
 IBC| = 7 cm
 IAD| = 2 cm,
 IDE| = 4 cm ise IEHI
 kaç cm'dir?



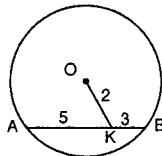
A) $\frac{11}{3}$ B) $\frac{10}{3}$ C) 3 D) $\frac{9}{2}$ E) $\frac{7}{2}$

4. Şekildeki
 yarım
 çemberde
 $m(\widehat{CAD}) = 32^\circ$
 $m(\widehat{BDE}) = 24^\circ$ ise
 $m(\widehat{BC})$ kaç derecedir?



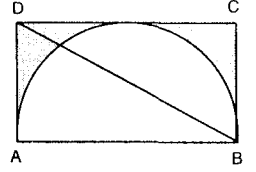
A) 20 B) 36 C) 42 D) 46 E) 48

5. O merkezli çemberde
 IOKI = 2 cm,
 IKBI = 3 cm,
 IAK| = 5 cm ise dairenin alanı
 kaç cm^2 'dir?



A) 19π B) 16π C) 12π D) 9π E) 6π

6. ABCD dikdörtgen ve
 AB çaplı yarım
 çemberde, IDBI = $4\sqrt{5}$
 cm ise taralı alanlar
 toplamı
 aşağıdakilerden han-
 glisidir?

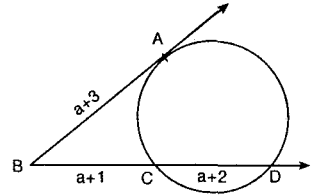


A) $5(2-\pi)$ B) $4(5-\pi)$ C) $4-\pi$
 D) $5\pi-2$ E) $8(4-\pi)$

7. Boyutları 8 cm ve 15 cm olan dikdörtgenin
 çevrel çemberinin çevresi kaç π 'dir?

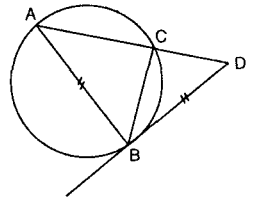
A) 18 B) 17 C) 13 D) $\frac{17}{2}$ E) $\frac{13}{2}$

8. Şekildeki
 çemberde [BA
 çembere A'da
 teğettir.
 IAB| = (a + 3) br
 IBC| = (a + 1) br
 ICD| = (a + 2) br
 ise IAB| + ICD| kaç br'dir?



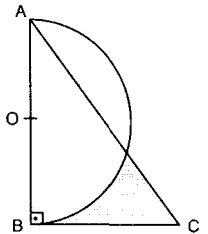
A) 11 B) 12 C) 14 D) 16 E) 18

9. Şekildeki çemberde [DB
 çembere teğettir.
 IAB| = IBD|,
 $m(\widehat{ACB}) = 70^\circ$ ise
 $m(\widehat{ABC})$ kaç derece-
 dir?



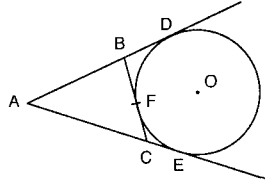
A) 45 B) 55 C) 65 D) 75 E) 85

10. Şekilde ABC ikizkenar dik
 üçgendir. IBC| = 6 cm ve O
 yarım çemberin merkezidir.
 Taralı bölgenin alanı kaç
 cm^2 'dir?



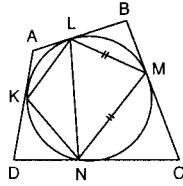
A) 6π B) $6\pi-3$ C) $\frac{27}{2} - \frac{9\pi}{4}$
 D) $18-4\pi$ E) $27 - \frac{9\pi}{2}$

11. Şekildeki O merkezli çembere [AD ve [AE teğetleri çizilmiştir.
 $IAB = IBC = 7$ cm ve
 $IAC = 6$ cm olduğuna göre $IAEI$ kaçtır?



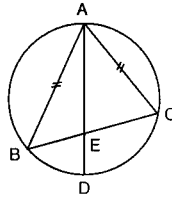
A) 10 B) 11 C) 12 D) 13 E) 14

12. ABCD teğetler dörtgeni, KLMN kirişler dörtgeni
 BLM eşkenar üçgen ve
 $IMLI = IMNI$ ise $m(\widehat{LKN})$ kaç derecedir?



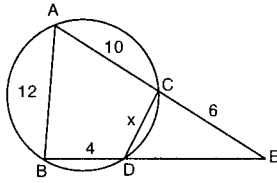
A) 60 B) 75 C) 90 D) 120 E) 135

13. Şekilde
 $IAB = IAC$
 $IAEI = 12$ br
 $IEDI = 3$ br ise
 $IACI$ kaç br'dir?



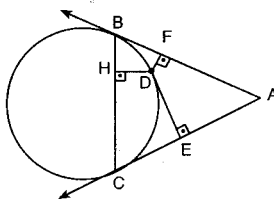
A) 9 B) $8\sqrt{5}$ C) $6\sqrt{5}$ D) 6 E) 5

14. Şekildeki çemberde
 $IACI = 10$ br
 $IAB = 12$ br,
 $IBDI = 4$ br
 $ICEI = 6$ br ve
 ABCD kirişler dörtgeni ise $ICDI = x$ kaç br'dir?



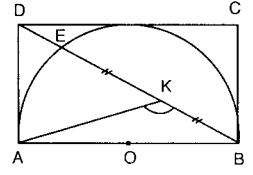
A) 4 B) 6 C) 8 D) 10 E) 12

15. Şekilde [AB ve [AC teğetler,
 $IFDI = 2$ br
 $IDEI = 8$ br ise
 $IHDI$ kaç br'dir?



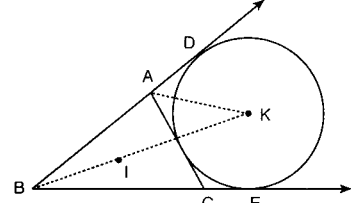
A) 2 B) 4 C) 7 D) 9 E) 12

16. ABCD dikdörtgen ve AB çaplı yarım çember, $IBKI = IKEI$ ise $m(\widehat{AKB})$ kaç derecedir?



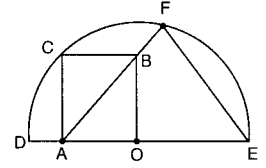
A) 150 B) 135 C) 120 D) 105 E) 90

17. $\triangle ABC$ de I ve K iç ve dış açıortayların kesim noktasıdır.
 $IAB = 5$ br,
 $IBI = 4$ br,
 ve $IKI = 6$ br ise $IBCI$ kaç br'dir?



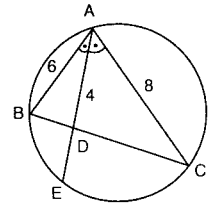
A) 6 B) 8 C) 9 D) 10 E) 12

18. O merkezli yarım çemberde AOBC kare ise $m(\widehat{FED})$ kaç derecedir?



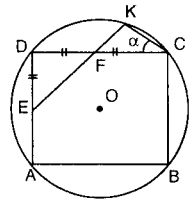
A) 30 B) 45 C) 52,5 D) 60 E) 67,5

19. Şekildeki çemberde
 $m(\widehat{BAE}) = m(\widehat{EAC})$
 $IACI = 8$ br,
 $IAB = 6$ br ve $IADI = 4$ br
 ise $IAEI$ kaç br'dir?



A) 6 B) 8 C) 9 D) 12 E) 16

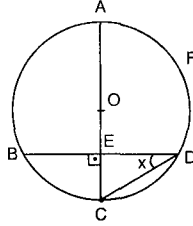
20. Şekilde ABCD karesinin çevrel çemberi çizilmiştir. O merkez ve $IEDI = IDFI = IFCI$ ise $m(\widehat{DCK})$ kaç derecedir?



A) 15 B) 30 C) 45 D) 60 E) 75

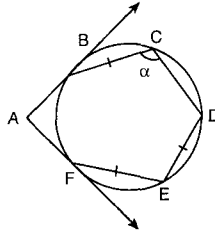
TARAMA - 7

1. Şekildeki O merkezli çemberde; $[BD] \perp [AC]$ ve $m(\widehat{AFD}) = 140^\circ$ ise $m(\widehat{BDC}) = x$ kaç derecedir?



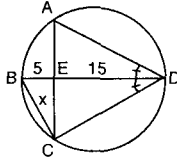
A) 10 B) 20 C) 30 D) 40 E) 50

2. Şekildeki çemberde $[AB]$ ve $[AF, B]$ ve F 'de teğettir. $IBC I = IDE I = IEF I$ ve $m(\widehat{BAF}) = 120^\circ$, $\sqrt{3}IAFI = IC DI$ ise $m(\widehat{BCD}) = \alpha$ kaç derecedir?



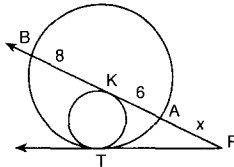
A) 80 B) 90 C) 100 D) 110 E) 120

3. Şekilde $[DB]$ açıortay, $IBEL = 5$ br, $IEDI = 15$ br ise $IBCI$ kaç br'dir?



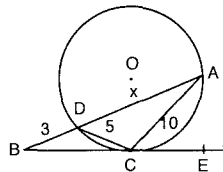
A) 5 B) 8 C) 10 D) 12 E) 15

4. Şekildeki çemberler birbirine T noktasında içten teğet olup $[PB]$ küçük çembere K'de teğettir. $IAKI = 6$ cm, $IKBI = 8$ cm ise $IAP I = x$ kaç cm'dir?



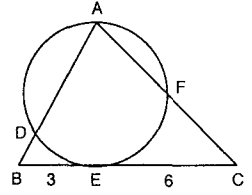
A) 8 B) 12 C) 16 D) 18 E) 20

5. Şekildeki çemberde $[BE]$ çembere C'de teğettir. $IBDI = 3$ cm, $IDCI = 5$ cm, $ACI = 10$ cm ise $IADI = x$ kaç cm'dir?



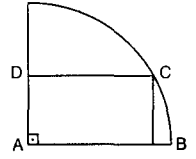
A) 6 B) 7 C) 9 D) 10 E) 11

6. Şekildeki ABC eşkenar üçgeni çembere E'de teğettir. $IBEL = 3$ br, $IECI = 6$ br ise $\frac{IADI}{IAFI}$ kaç br'dir?



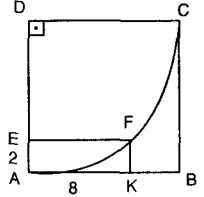
A) 2 B) $\frac{9}{5}$ C) $\frac{8}{5}$ D) $\frac{7}{5}$ E) $\frac{7}{4}$

7. Şekildeki A merkezli çeyrek çemberde, ABCD dikdörtgeninin çevresi 16 br, alanı 7 br² ise çemberin yarıçapı kaç br'dir?



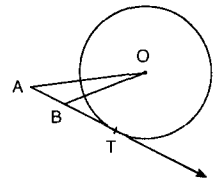
A) 5 B) 6 C) $5\sqrt{2}$ D) $6\sqrt{2}$ E) 9

8. Şekildeki F noktası D merkezli dörtte bir çember üzerindedir. AEFK dikdörtgen $IAKI = 8$ br, $IEAI = 2$ br olduğuna göre $IBCI$ kaç br'dir?



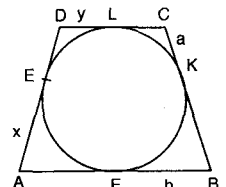
A) 11 B) 12 C) 15 D) 16 E) 17

9. Şekildeki O merkezli çemberin çevresi 12π cm ve $[AB]$ yarı doğrusu T'de çembere teğet, $IBAI = 3$ cm ise ABO üçgeninin alanı kaç cm²'dir?



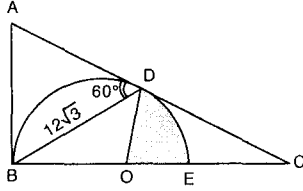
A) 9 B) 10 C) 12 D) 15 E) 18

10. Şekildeki ABCD yamuğu teğetler dörtgenidir. $IAEI = x$ br, $IDLI = y$ br, $ICKI = a$ br, $IFBI = b$ br ise $\frac{x \cdot y}{a \cdot b}$ kaç br'dir?



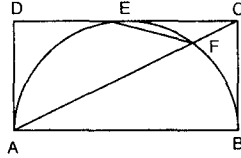
A) $\frac{1}{4}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{4}$

11. Şekildeki O merkezli yarım çemberde B ve D yarım çemberin teğet değme noktaları $m(\hat{A}DB) = 60^\circ$ ve $|BD| = 12\sqrt{3}$ br ise **taralı alan kaç π br²dir?**



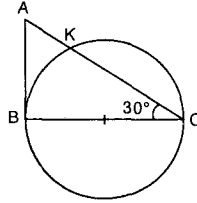
A) 12 B) 16 C) 20 D) 22 E) 24

12. Şekilde ABCD dikdörtgen ve [AB] çaplı yarım çember, [DA], [CB] ve [CD] çembere sırasıyla A, B ve E noktalarında teğet ve $|EF| = 5\sqrt{10}$ cm ise **|ADI| kaç cm'dir?**



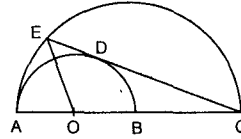
A) 20 B) 25 C) 30 D) 40 E) 50

13. [BC] çap, [AB], B'de çembere teğet, $|AK| = 1$ br ve $m(\hat{BCA}) = 30^\circ$ ise **|IKI| uzunluğu kaç br'dir?**



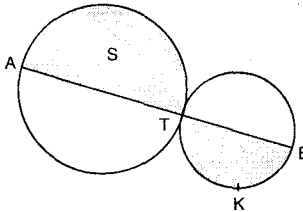
A) 3 B) 4 C) 5 D) 6 E) 7

14. Şekilde [AB] ve [AC] küçük ve büyük yarım dairelerin çaplarıdır. [EC] küçük daireye D'de teğettir. $|AO| = |OB| = |BC|$ ve küçük yarım dairenin alanı 2π br² ise **|EOI| kaç br'dir?**



A) $\sqrt{11}$ B) 3 C) $\sqrt{7}$ D) $\sqrt{5}$ E) $\sqrt{3}$

15. T noktasında dıştan teğet çemberler için $\frac{|TB|}{|BA|} = \frac{3}{8}$ dir. TKB daire parçasının alanı 12 br² ise **S alanı kaç br²dir?**

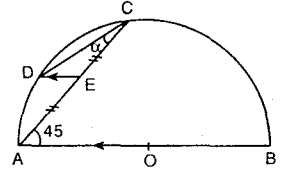


A) $\frac{100}{3}$ B) 30 C) $\frac{88}{3}$ D) 25 E) 20

16. O merkezli yarım çemberde $|AE| = |EC|$

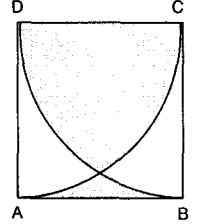
$m(\hat{BAC}) = 45^\circ$ ve $[DE] \parallel [AB]$ ise

$m(\hat{ACD}) = \alpha$ kaç derecedir?



A) 7,5 B) 15 C) 22,5 D) 30 E) 37,5

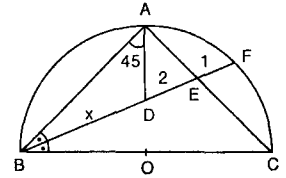
17. ABCD kare ve $|AB| = 6$ br'dir. **Buna göre şekildedeki taralı bölgenin alanı kaç br²dir?**



A) $6(6-\pi)$ B) $6(\pi+3)$
C) $6(6+3\sqrt{3}-\pi)$ D) $6(3+\pi-3\sqrt{3})$
E) $6(6+\pi-3\sqrt{3})$

18. O merkezli yarım çemberde [BE] açıortay,

$m(\hat{BAD}) = 45^\circ$,
 $|FE| = 1$ br ve
 $|ED| = 2$ br ise
|BDI| = x kaç br'dir?

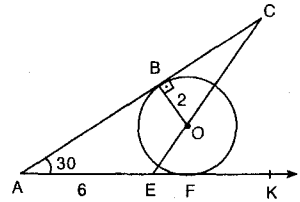


A) 5 B) 6 C) $\frac{15}{2}$ D) 8 E) 10

19. O merkezli çembere [AC] B noktasında ve [AK] F noktasında teğettir.

$m(\hat{KAC}) = 30^\circ$
 $|AE| = 6$ br ve

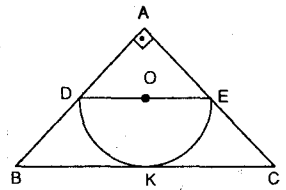
$|OBI| = 2$ br ise **$\Delta(AEC)$ kaç br²dir?**



A) 8 B) 9 C) 12 D) 18 E) 24

20. O merkezli yarım çember [BC] ye K noktasında teğettir. $[DE] \parallel [BC]$,

$m(\hat{BAC}) = 90^\circ$,
 $|AB| = 6$ br ve
 $|AC| = 8$ br ise **|DEI| kaç br'dir?**



A) $\frac{120}{49}$ B) $\frac{240}{49}$ C) $\frac{128}{25}$ D) $\frac{256}{25}$ E) $\frac{240}{39}$

TARAMA - 8

1. Şekildeki çemberde,
C teğet noktası,

$$m(\widehat{ACD}) = 3x,$$

$$m(\widehat{DCB}) = 2x,$$

$$m(\widehat{BCK}) = 6x \text{ ve}$$

$$m(\widehat{ABC}) = x \text{ olduğuna göre}$$

$$m(\widehat{CDB}) \text{ kaç derecedir?}$$

- A) 120 B) 125 C) 130 D) 135 E) 140

2. O merkezli yarım
çemberde

$$|AH| = |HC|,$$

$$|EH| = 1 \text{ br},$$

$$|OH| = \frac{15}{2} \text{ br ise } |AC|$$

$$\text{kaç br'dir?}$$

- A) 8 B) $\frac{15}{2}$ C) 7 D) $\frac{13}{2}$ E) 6

3. O_1 ve O_2 merkezli iki
çember C ve D'de
kesişiyor.

$$[AB] \parallel [O_1O_2],$$

$$|O_1O_2| = 16 \text{ br},$$

$$|CB| = 20 \text{ br ise } |AC| \text{ kaç br'dir?}$$

- A) 12 B) 11 C) 10 D) 9 E) 8

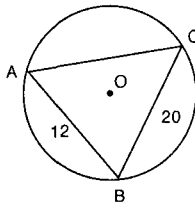
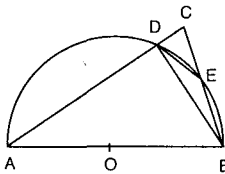
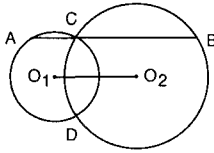
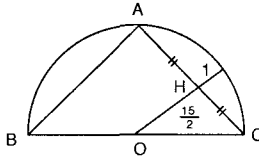
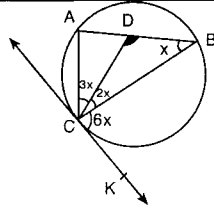
4. O merkezli yarım
çemberde, $|EC| = 4 \text{ cm}$,
 $|AB| = |AC| = 8 \text{ cm}$ ve A,
D, E, B noktaları çember

üzerinde ise $\triangle DEB$ nin
alanı kaç cm^2 dir?

- A) $2\sqrt{3}$ B) $4\sqrt{3}$ C) $6\sqrt{3}$
D) $8\sqrt{3}$ E) $10\sqrt{3}$

5. Şekildeki O merkezli çevrel
çemberde, $|AB| = 12 \text{ cm}$,
 $|BC| = 20 \text{ cm}$ ve çemberin
yarıçapı 15 cm ise B'nin
|AC| kenarına uzaklığı kaç
cm'dir?

- A) 4 B) 6 C) 8 D) 10 E) 12

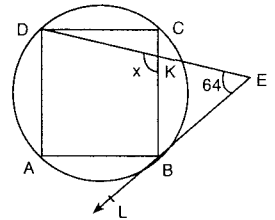


6. Şekildeki O merkezli
büyük ve küçük
çemberlerde, [BA] ke-
seni küçük çembere
K'da teğettir. [PT]
büyük çembere T'de
teğet ve $|PT| = 2\sqrt{6} \text{ br}$,
 $|AP| = 2 \text{ br}$ ise taralı
daire halkasının alanı kaç br^2 dir?

- A) 16π B) 20π C) 25π D) 36π E) 49π

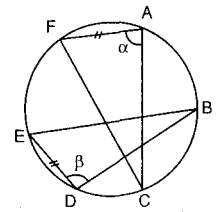
7. ABCD bir kare [EL
B'de çembere teğet,
 $m(\widehat{DEB}) = 64^\circ$ ise x
kaç derecedir?

- A) 100 B) 109 C) 116 D) 120 E) 124



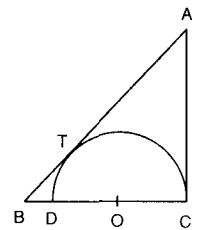
8. Şekildeki çemberde
 $|AF| = |ED| = 5 \text{ br}$
 $m(\widehat{ABC}) = m(\widehat{DCB})$
 $\alpha + \beta = 180^\circ$
 $|FC| = 13 \text{ br}$ ise
 $|AC| + |EB|$ kaç br'dir?

- A) 20 B) 25 C) 26 D) 27 E) 30



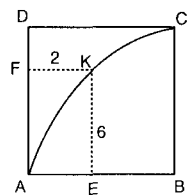
9. O merkezli yarım çemberde
[AB] ve [AC], T ve C'de teğet
ve $|AT| = |BC|$, $|BD| = 4 - 2\sqrt{2}$
br olduğuna göre |AC| kaç
br'dir?

- A) $2 + 2\sqrt{2}$ B) $2 + 4\sqrt{2}$ C) $3 + 2\sqrt{2}$
D) $4 + 2\sqrt{2}$ E) $4 + 4\sqrt{2}$

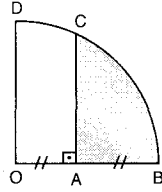


10. ABCD kare, K noktası B mer-
kezli yay üzerinde ve AEKF
dikdörtgen, $|KE| = 6 \text{ br}$,
 $|FK| = 2 \text{ br}$ ise karenin alanı
kaç br^2 dir?

- A) 81 B) 100 C) 125 D) 144 E) 169

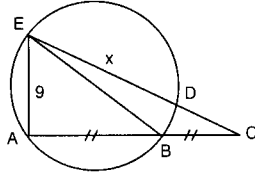


11. Şekildeki O merkezli çeyrek çemberde $|OA| = |AB| = 6$ br, $[AC] \perp [OB]$ olduğuna göre **taralı bölgenin alanı kaç br^2 'dir?**



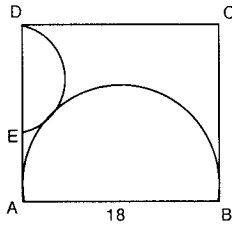
- A) $6(3\pi - 2\sqrt{3})$ B) $16(\pi - \sqrt{3})$ C) $8(2\pi - \sqrt{3})$
D) $6(4\pi - \sqrt{3})$ E) $6(4\pi - 3\sqrt{3})$

12. Şekildeki çemberde, $[EB]$ çap, $|AB| = |BC|$, $|AE| = 9$ br, $\Delta A(EBC) = 27$ br² ise **x kaç br'dir?**



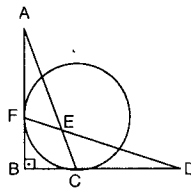
- A) 4,8 B) 6 C) 6,4 D) 7,2 E) 10,2

13. ABCD bir kare $[AB]$ ve $[DE]$ çap, $|AB| = 18$ br olduğuna göre **IDEI kaç br'dir?**



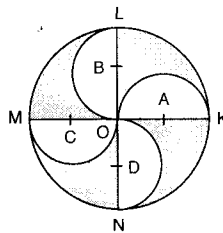
- A) 8 B) 10 C) 12 D) 14 E) 16

14. Şekilde $[AB]$ ve $[BD]$ çembere F ve C'de teğettir. $m(\hat{B}) = 90^\circ$, $|IEFI| = |IECI|$, $|IEDI| = 4$ cm ise **IAEI kaç cm'dir?**



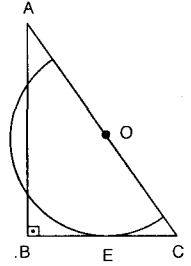
- A) 2 B) 4 C) 6 D) 8 E) 9

15. O merkezli çemberde, A, B, C, D merkezli yarım çemberler çizilmiştir. $|IMCI| = 2$ br ise **taralı alanlar toplamı kaç π birimkaredir?**



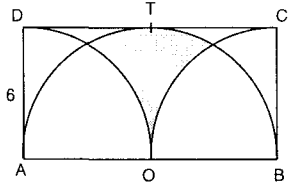
- A) 6 B) 8 C) 9 D) 10 E) 12

16. O merkezli yarım çember $[BC]$ ye E noktasında teğet $|OA| = |OC|$ ve $|AB| = 8$ br ise **çemberin yarıçapı kaç br'dir?**



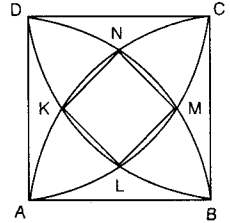
- A) 2 B) 3 C) 4 D) 5 E) 6

17. ABCD dikdörtgen içine O merkezli yarım çember ile A ve B merkezli çeyrek çember çizilmiştir. $|AD| = 6$ br ise **taralı alan kaç br^2 dir?**



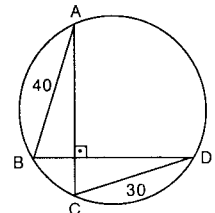
- A) $6(3\sqrt{3} - \pi)$ B) $6(3\sqrt{3} - \frac{\pi}{2})$
C) $6(2\sqrt{3} - \pi)$ D) $4(3\sqrt{3} - \pi)$
E) $4(3\sqrt{3} - \frac{\pi}{2})$

18. ABCD karesinin köşelerini merkez, kenarlarını yarıçap kabul eden çemberlerin kesişim noktaları K, L, M ve N olsun. $|AB| = 2$ br ise **Ç(KLMN) kaç br'dir?**



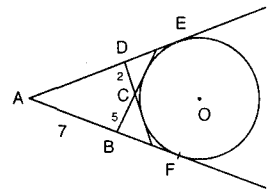
- A) $4\sqrt{2-\sqrt{3}}$ B) $8\sqrt{2-\sqrt{3}}$
C) 4 D) $4\sqrt{2-\sqrt{2}}$
E) $8\sqrt{2-\sqrt{2}}$

19. Şekildeki çemberde $[AC] \perp [BD]$, $|AB| = 40$ br ve $|ICDI| = 30$ br ise **çemberin yarıçapı kaç br'dir?**



- A) 25 B) 28 C) 30 D) 32 E) 36

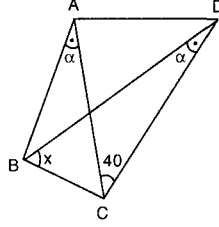
20. O merkez $[AE]$ ve $[AF]$, E ve F noktalarında çembere teğettirler. $|AB| = 7$ br, $|BCI| = 5$ br ve $|ICDI| = 2$ br ise **IA DI kaç br'dir?**



- A) 9 B) 10 C) 12 D) 14 E) 15

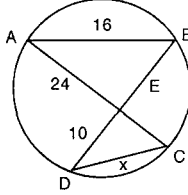
TARAMA - 9

1. Şekilde
 $\widehat{ACI} = \widehat{ICD}$
 $m(\widehat{ACD}) = 40^\circ$
 olduğuna göre x kaç
 derecedir?



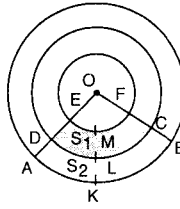
A) 70 B) 75 C) 80 D) 85 E) 90

2. Şekildeki çemberde;
 $IAI = 16$ br,
 $IDEI = 10$ br,
 $IAEI = 24$ br,
 olduğuna göre $IDCI = x$ kaç
 br'dir?



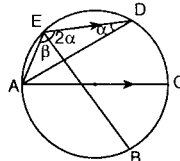
A) $\frac{10}{3}$ B) 4 C) 6 D) $\frac{20}{3}$ E) 7

3. Şekildeki çemberlerin merkez-
 leri aynı ve O noktasıdır.
 $EMFI = 6k$ br,
 $IDLC = 8k$ br,
 $IAKB = 20k$ br
 ise $\frac{S_1}{S_2}$ oranı aşağıdakilerden
 hangisidir?



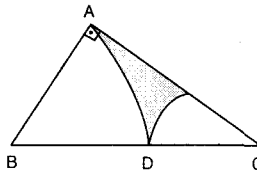
A) $\frac{1}{12}$ B) $\frac{1}{3}$ C) $\frac{2}{3}$ D) $\frac{3}{4}$ E) $\frac{11}{12}$

4. Şekildeki çemberde
 $[ED] \parallel [AC]$,
 $m(\widehat{BED}) = 2m(\widehat{EDA}) = 2\alpha$,
 $m(\widehat{AEB}) = \beta$
 $\alpha + \beta = 90^\circ$
 $IEAI = 9$ ve $IACI = 15$ br ise $IA DI$ kaç
 br'dir?



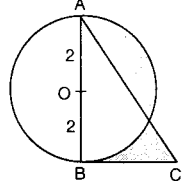
A) 9 B) 10 C) 12 D) 14 E) 15

5. $[AB] \perp [AC]$,
 B ve C merkezli
 çemberler, $[BC]$ 'nin
 ortası olan D'de bir-
 birine teğettir.
 $IBC I = 10$ cm
 olduğuna göre taralı
 alan kaç cm^2 'dir?



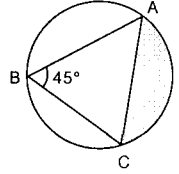
A) $25(2\sqrt{3} - \pi)$ B) $\frac{25}{4}(2\sqrt{3} - \pi)$
 C) $\frac{25}{4}(\sqrt{3} - \pi)$ D) $\frac{25}{8}(3\sqrt{3} - 2\pi)$
 E) $\frac{25}{6}(\sqrt{3} + \pi)$

6. $[AB]$ çap $[BC]$ teğettir.
 $IAI = IBCI = 4$ br ise
 taralı alanlar toplamı kaçtır?



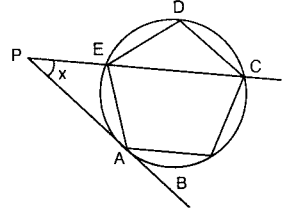
A) 2 B) 3 C) 4 D) 6 E) 16

7. Çemberin yarıçapı 8 cm ve
 $m(\widehat{ABC}) = 45^\circ$ ise taralı alan
 kaç br'dir?



A) $6(\pi - 2)$ B) $9(2\pi - 1)$ C) $16(\pi - 2)$
 D) $16(2\pi - 1)$ E) $9(\pi - 2)$

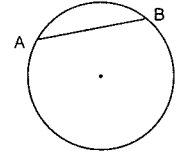
8. Şekildeki ABCDE
 bir düzgün
 beşgendir. $[PA]$
 çembere teğettir.



$m(\widehat{CPA}) = x$ kaç
 derecedir?

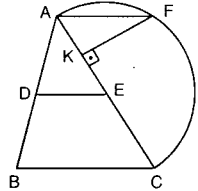
A) 18 B) 20 C) 30 D) 32 E) 36

9. Yarıçapı 13 br olan O mer-
 kezli çemberde, 10 cm
 uzunluğundaki kirişlerinin
 orta noktalarının oluşturduğu
 çemberin çevresi kaç π br'-
 dir?



A) 12π B) 18π C) 20π D) 24π E) 36π

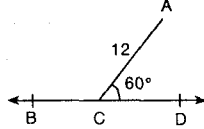
10. Şekilde $[AC]$ çaplı yarım
 çember,
 $IAI = 4IAKI$,
 $IAFI = IAEI$ ve
 $[FK] \perp [AC]$,
 $[DE] \parallel [BC]$



olduğuna göre ΔABC 'nin alanı ΔADE 'nin alanının
 kaç katıdır?

A) 3 B) $\frac{7}{2}$ C) 4 D) $\frac{9}{2}$ E) 5

11. C, çemberle [BD] doğrusunun değme noktası
 $m(\hat{ACD}) = 60^\circ$, $|AC| = 12$ br
 ise A ve C noktalarından geçen ve C'de [BC] doğrusuna teğet olan çemberin yarıçapı kaç br'dir?



- A) $2\sqrt{3}$ B) $4\sqrt{3}$ C) $6\sqrt{3}$
 D) 12 E) $12\sqrt{3}$

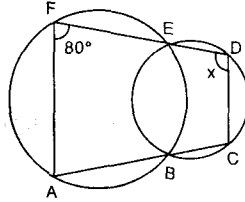
12. Yarıçapları 6 br ve 8 br olan iki çember dik kesişmektedirler. Çemberlerin merkezleri arasındaki uzaklık kaç br'dir?

- A) 6 B) 8 C) 10 D) 15 E) 20

13. Yarıçapları 2 ve 13 br olan iki çemberin merkezleri arası uzaklık 5 br olduğuna göre iki çembere de teğet çizilebilecek en büyük yarıçaplı çemberin yarıçapı kaç br'dir?

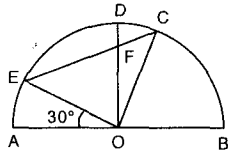
- A) 5 B) 7 C) 8 D) 9 E) 10

14. Şekildeki E ve B noktaları çemberleri kesim noktaları, A, B, C ve F, E, D doğrusal,
 $m(\hat{AFD}) = 80^\circ$ ise
 $m(\hat{FDC}) = x$ kaç derecedir?



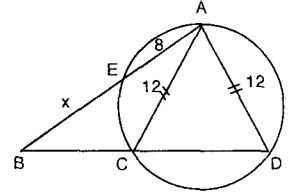
- A) 80 B) 90 C) 100 D) 120 E) 160

15. O merkez ve D noktası yarım çemberin yayının orta noktasıdır.
 $m(\hat{AOE}) = 30^\circ$ ve
 $|EC| = \sqrt{2} |OE|$
 olduğuna göre $m(\hat{DOC})$ kaç derecedir?



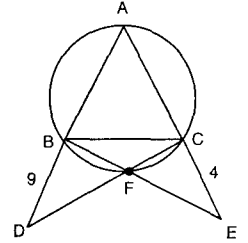
- A) 30 B) 40 C) 45 D) 50 E) 60

16. Şekilde $\triangle ACD$ nin çevrel çemberi çizilmiştir.
 $|AC| = |AD| = 12$ br ve $|AE| = 8$ br ise $|BE|$ kaç br'dir?



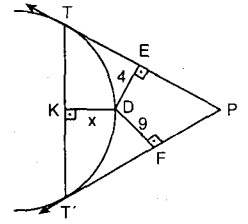
- A) 6 B) $\frac{15}{2}$ C) 8 D) 9 E) 10

17. ABC eşkenar üçgeninin çevrel çemberi çizilmiştir.
 $|BD| = 9$ br ve $|CE| = 4$ br ise $|BC|$ kaç br'dir?



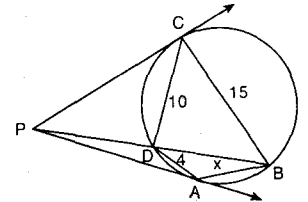
- A) 3 B) 4 C) 6 D) 8 E) 9

18. [PT ve [PT' teğet,
 $[DE] \perp [PT]$,
 $[DF] \perp [PT']$,
 $[DK] \perp [TT']$,
 $|DE| = 4$ br ve
 $|DF| = 9$ br ise
 $|DK|$ kaç br'dir?



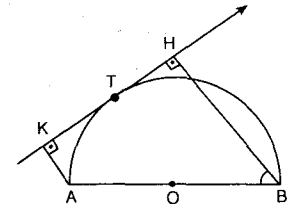
- A) 3 B) 4 C) 5 D) 6 E) 8

19. [PC ve [PA teğet,
 $|AD| = 4$ br,
 $|CD| = 10$ br ve
 $|BC| = 15$ br ise
 $|AB|$ kaç br'dir?



- A) 12 B) 9 C) 8 D) 6 E) 5

20. O merkezli çemberde
 $[AK] \perp [KH]$,
 $[BH] \perp [KH]$,
 $|AK| = 2$ br ve
 $|BH| = 6$ br ise
 $m(\hat{ABH})$ kaç derecedir?



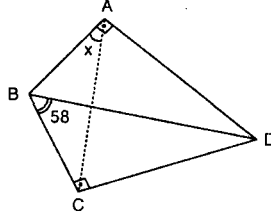
- A) 30 B) 45 C) 60 D) 72 E) 75

TARAMA - 10

1. Şekilde $[AB] \perp [AD]$,
 $[BC] \perp [CD]$,

$m(\widehat{CBD}) = 58^\circ$
 olduğuna göre

$m(\widehat{BAC}) = x$ kaç
 derecedir?



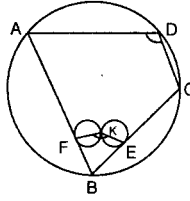
A) 28 B) 30 C) 32 D) 36 E) 42

2. Şekildeki kirişler
 dörtgeninde, $[AB]$, F' 'de, ve
 $[BC]$ E' 'de küçük ve eş
 çemberlere teğettir. Küçük
 çemberler ise K' 'de birbirine
 teğettir.

$IFBI = IBEI$ ve $m(\widehat{ADC}) = 70^\circ$

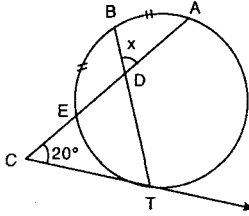
olduğuna göre $m(\widehat{FKE})$ kaç derecedir?

A) 105 B) 110 C) 115 D) 120 E) 125



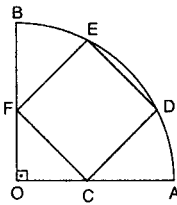
3. Şekilde $[CT]$, T nok-
 tasında çembere teğet
 $m(\widehat{BE}) = m(\widehat{BA})$
 ve $m(\widehat{ACT}) = 20^\circ$ ise
 $m(\widehat{ADB}) = x$ kaç de-
 recedir?

A) 80 B) 75 C) 70 D) 65 E) 60



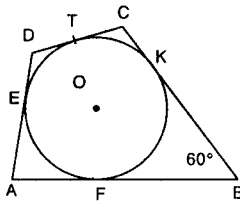
4. O merkezli çeyrek çember
 içine CDEF karesi çizilmiştir.
 $IOFI = IOCI$ ve
 $IOAI = 5$ br ise $A(CDEF)$ kaç
 br'dir?

A) $4\sqrt{10}$ B) $4\sqrt{5}$ C) $2\sqrt{10}$
 D) 10 E) 16



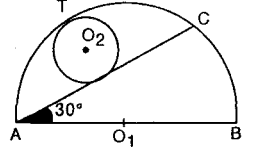
5. Şekildeki ABCD
 teğetler dörtgeninde,
 $IKBI = 6\sqrt{3}$ br,
 $m(\widehat{ABC}) = 60^\circ$ ise
 O merkezli çemberin
 çevresi kaç br'dir?

A) 6π B) 8π C) 10π
 D) 12π E) 16π



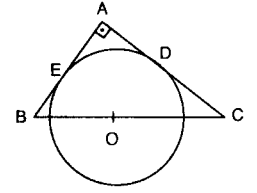
6. Şekilde yarıçapı 16 bi-
 rim olan O_1 merkezli
 yarım çemberin $[AC]$
 kirişi 30° lik bir açı yap-
 maktadır. ATC yayına
 ve $[AC]$ ye teğet olarak çizilen O_2 merkezli en
 büyük çemberin yarıçapı kaç br'dir?

A) 2 B) 3 C) 4 D) 5 E) 6



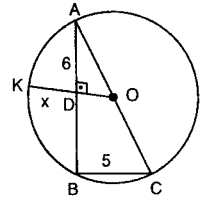
7. O merkezli çemberde
 $IABI = 4$ cm,
 $IACI = 6$ cm ve $[AB]$,
 $[AC]$ çembere E ve D
 teğet ise çemberin
 yarıçapı kaç br'dir?

A) 1,2 B) 1,5 C) 1,8 D) 2 E) 2,4



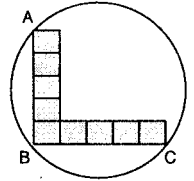
8. Şekilde O merkezli
 çemberde $[OK] \perp [AB]$,
 $[AD] = 6$ br,
 $[BC] = 5$ br ise
 $IKDI = x$ kaç br'dir?

A) 5 B) 4 C) $\frac{7}{2}$ D) 2 E) $\frac{3}{2}$



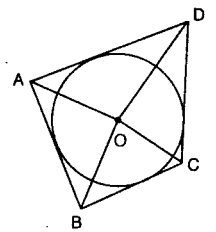
9. Şekildeki tüm kareler birbirine
 eş ve taralı alanlar toplamı
 90 cm^2 dir. A, B, C çember
 üzerindedir. Dairenin alanı
 kaç $\pi \text{ cm}^2$ dir?

A) 64 B) 81 C) 100 D) 125 E) 144

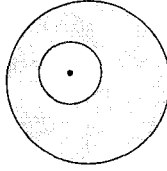


10. Şekildeki O merkezli
 çemberin yarıçapı 8 cm, -
 $\Delta A(BOC) = 36 \text{ cm}^2$
 $\Delta A(AOD) = 24 \text{ cm}^2$ dir.
 ABCD teğetler
 dörtgeninin çevresi kaç
 cm'dir?

A) 15 B) 20 C) 25 D) 30 E) 60

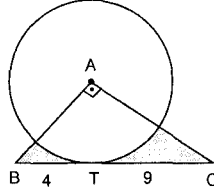


11. Şekildeki dairelerin çevreleri farkı 4π cm, taralı alan 32π cm² olduğuna göre **küçük çemberin yarıçapı kaç cm'dir?**



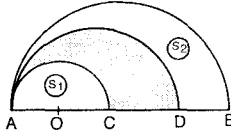
A) 7 B) 8 C) 9 D) 10 E) 11

12. Şekildeki A merkezli çembere [BC] doğrusu T'de teğet, $m(\widehat{BAC}) = 90^\circ$ ve $IBTI = 4$ cm, $ITCI = 9$ cm ise **taralı alanlar toplamı kaç br²dir?**



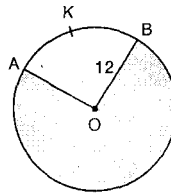
A) $3(13-3\pi)$ B) $39-15\pi$ C) $78-12\pi$
D) $78-9\pi$ E) $78+3\pi$

13. Şekildeki yarım çemberlerde $IAOI=IOC=ICD=IDBI$, S_1 ve S_2 bulundukları bölgenin alanları olmak üzere $S_1 + S_2 = \frac{11\pi}{2}$ br² ise **taralı bölgenin alanı kaç π br² dir?**



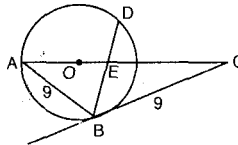
A) $\frac{3\pi}{2}$ B) 2π C) $\frac{5\pi}{2}$ D) 3π E) $\frac{7\pi}{2}$

14. Şekildeki O merkezli çemberin yarıçapı 12 br ve $\widehat{AKB} = 4\pi$ br ise **taralı alan kaç π br² dir?**



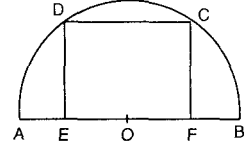
A) 100 B) 110 C) 120 D) 124 E) 140

15. Şekilde O merkezli çembere [CB, B'de teğettir. $IBC = IAB = 9$ br ise, $\Delta A(OBC)$ kaç br² dir?



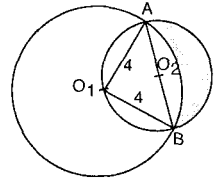
A) 18 B) 20 C) $\frac{27\sqrt{3}}{2}$
D) $18\sqrt{3}$ E) $20\sqrt{3}$

16. O merkezli yarım çember ve DCEF karesi veriliyor. $IAEI = 5 - \sqrt{5}$ br ise **ka-
renin alanı kaç br²dir?**



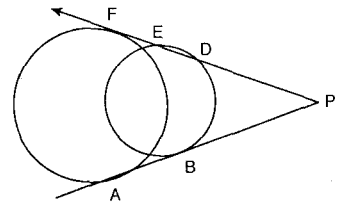
A) 10 B) 15 C) 16 D) 20 E) 25

17. Şekilde O_1 ve O_2 merkezli çemberler çizilmiştir. $IO_1A = IO_1B = 4$ br ise **ta-
ralı alan kaç br²dir?**



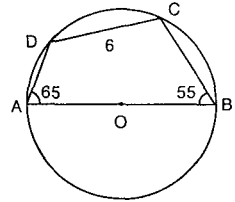
A) 2 B) 4 C) 6 D) 8 E) 9

18. Şekilde [PF, F'de, [PA A ve B'de çemberlere teğet, $IPBI = 6$ cm, $IABI = 8$ cm, $IPDI = 4$ cm ise **IEFI kaç cm'dir?**



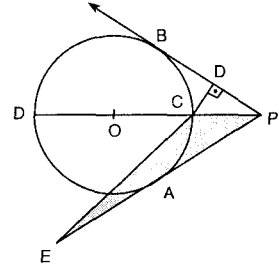
A) 1 B) 2 C) 3 D) 4 E) 5

19. O merkezli çemberde; $m(\widehat{DAB}) = 65^\circ$, $m(\widehat{ABC}) = 55^\circ$ ve $IDCI = 6$ cm ise **IABI kaç cm'dir?**



A) 8 B) 10 C) 11 D) 12 E) 15

20. O merkezli çemberde, B ve A teğet değme noktaları $ICDI = 8$ br ve $IPBI = 10$ br, $IAEI = 8$ br, $[CD] \perp [PB]$ dir. $\Delta A(PCE)$ kaç br² dir?



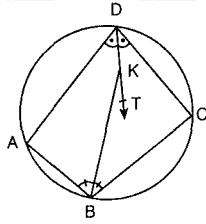
A) 36 B) 54 C) 60 D) 70 E) 72

TARAMA - 11

1. Şekildeki kirişler dörtgeninde $[DK]$ ve $[BK]$ açıortaylar ve

$$m(\widehat{BAD}) = 4m(\widehat{BCD}) \text{ ise}$$

$m(\widehat{BKT})$ kaç derecedir?

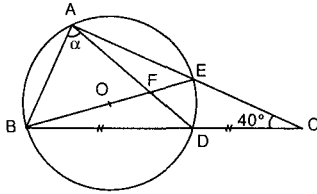


- A) 45 B) 51 C) 54 D) 59 E) 61

2. Şekildeki O merkezli çemberde $IBDI = IDC$,

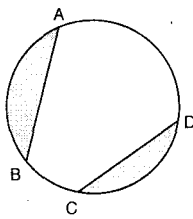
$$m(\widehat{BCA}) = 40^\circ$$

ise $m(\widehat{BAD}) = \alpha$ kaç derecedir?



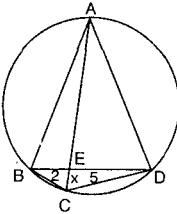
- A) 40 B) 50 C) 60 D) 70 E) 80

3. Şekilde $m(\widehat{AD}) + m(\widehat{BC}) = 180^\circ$ dir. $IABI = 30$ br $ICDI = 16$ br olduğuna göre taralı alanlar toplamı kaç br^2 dir?



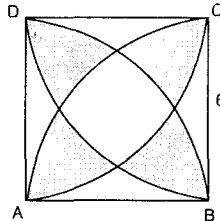
- A) $\frac{152\pi}{4} - 120$ B) $\frac{152\pi}{4} - 240$ C) $\frac{172}{2} - 240$
D) $\frac{172}{4} - 240$ E) $172\pi - 240$

4. Şekilde $IABI = IADI = 2IBDI$, $IBCI = 2$ br ve $ICDI = 5$ br ise $IECI = x$ kaç br'dir?



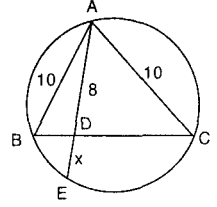
- A) $\frac{3}{14}$ B) $\frac{2}{7}$ C) $\frac{1}{2}$ D) $\frac{4}{7}$ E) $\frac{5}{7}$

5. ABCD kare ve $IBCI = 6$ br'dir. ABCD karesinin köşelerini merkez, kenarlarını yarıçap kabul eden çemberlerin sınırladığı taralı alan kaç br^2 dir?



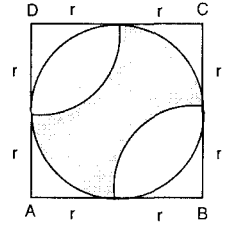
- A) $12(\pi - 12 + 6\sqrt{3})$ B) $12(3\sqrt{3} + \pi - 6)$
C) $12(2\sqrt{3} + 2\pi - 9)$ D) $13(3\sqrt{3} + \pi - 3)$
E) $12(2\sqrt{3} + \pi - 6)$

6. Şekilde $IABI = IACI = 10$ br $IADI = 8$ br ise $IDEI = x$ kaç br'dir?



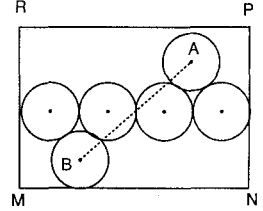
- A) 3 B) 3,5 C) 4 D) 4,5 E) 5

7. ABCD kare, $IABI = 2r$ B ve D merkezli r yarıçaplı çeyrek çember yayları ve içteğet çemberin sınırladığı alan 32 br² ise karenin bir kenarı kaç br'dir?



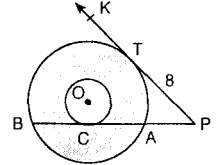
- A) 4 B) 5 C) 8 D) 10 E) 12

8. Şekildeki MNPR dikdörtgeninin içine, yarıçapları 2 br olan çemberler şekildedeki gibi birbirine ve dikdörtgene teğet çizilmiştir. $IABI$ kaç br'dir?



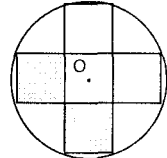
- A) $2\sqrt{7}$ B) $4\sqrt{7}$ C) $6\sqrt{7}$
D) $8\sqrt{7}$ E) $9\sqrt{7}$

9. Aynı merkezli şekildedeki çemberlerde $[PK]$, T 'de $[PB]$ C'de teğettir. $IPAI = 2IACI$, $IPTI = 8$ cm olduğuna göre taralı alan kaç π cm²dir?



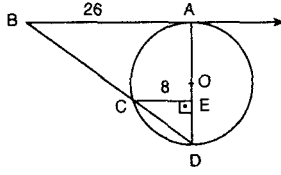
- A) 4 B) 6 C) 8 D) 16 E) 24

10. O merkezli çemberin içine eş kareler çizilmiştir. Taralı alanlar toplamı 32 cm² ise dairenin alan kaç π cm² dir?



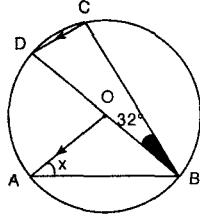
- A) 48 B) 40 C) 36 D) 30 E) 24

11. Şekildeki O merkezli çemberde, $[AD] \perp [EC]$, $|CE| = 8$ br, $[AB]$ A'da çembere teğet ve $|AB| = 26$ br ise $|OE|$ kaç br'dir?



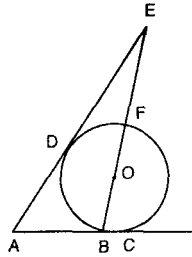
- A) $\frac{10}{3}$ B) 4 C) 5 D) 6 E) $\frac{20}{3}$

12. Şekildeki O merkezli çemberde $[OA] \parallel [DC]$ dir. $m(\widehat{BC}) = 32^\circ$ ise, $m(\widehat{BAO}) = x$ kaç derecedir?



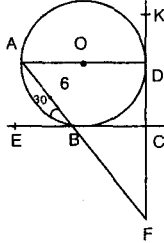
- A) 24 B) 27 C) 29 D) 32 E) 34

13. Şekildeki O merkezli çemberde $|AE| = 12$ br, $|AB| = 6$ br, $[AE]$ D'de teğet ve $A(\triangle ABE) = 18$ br² ise çemberin yarıçapı kaç br'dir?



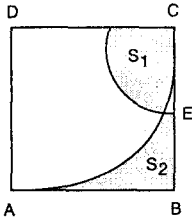
- A) $\frac{1}{2}$ B) 1 C) $\frac{3}{2}$ D) 2 E) $\frac{5}{2}$

14. Şekildeki O merkezli çemberde $[FK]$ D'de, $[EC]$ B'de teğet, $m(\widehat{EBA}) = 30^\circ$, $|AB| = 6$ br ise ABCD dörtgeninin alanı kaç br²dir?



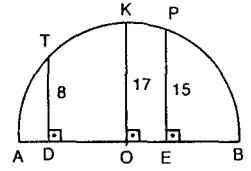
- A) $48\sqrt{3}$ B) $45\sqrt{3}$ C) $36\sqrt{3}$
D) $32\sqrt{3}$ E) $27\sqrt{3}$

15. ABCD kare, C merkezli çeyrek çember ve D merkezli çeyrek çember çizilmiştir. $|EB| = |EC| = 4$ cm, S_1 ve S_2 bulundukları bölgelerin alanlarını göstermek üzere $S_2 - S_1$ kaç br²dir?



- A) $64 - 16\pi$ B) $64 - 20\pi$ C) $48 - 16\pi$
D) $48 - 20\pi$ E) $16 + 16\pi$

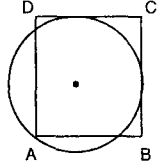
16. Şekildeki O merkezli, $[AB]$ çaplı yarım çember üzerinde alınan T, K, P noktalarından $[TD]$, $[KD]$ ve $[PE]$ dikmeleri indiriliyor.



$|TD| = 5$ br, $|OK| = 17$ br ve $|PE| = 15$ br ise $|DE|$ kaç br'dir?

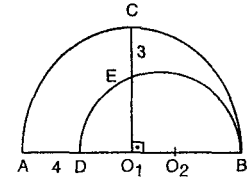
- A) 8 B) 15 C) 23 D) 25 E) 32

17. Kenarları 18 ve 16 br olan ABCD dikdörtgeninin, A köşesinden geçen O merkezli çember dikdörtgenin $[BC]$ ve $[DC]$ kenarlarına şekildeki gibi teğettir. Buna göre çemberin yarıçapı aşağıdakilerden hangisidir?



- A) 6 B) 8 C) 10 D) 12 E) 13

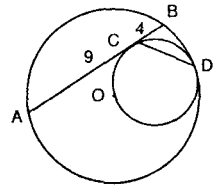
18. O_1 ve O_2 merkezli yarım çemberlerde, $[O_1C] \perp [AB]$



$|AD| = 4$ br ve $|CE| = 3$ br ise $|O_1B|$ kaç br'dir?

- A) $\frac{9}{2}$ B) $\frac{11}{2}$ C) $\frac{13}{2}$ D) 7 E) $\frac{15}{2}$

19. Şekilde, O merkezli çemberin merkezinden geçen içten teğet çember $[AB]$ kirişine C'de teğettir.



$|AC| = 9$ cm,

$|CB| = 4$ cm ise

$|CD|$ kaç cm'dir?

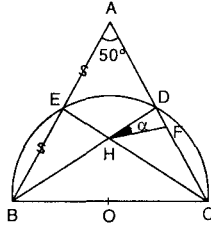
- A) 4 B) 4,5 C) 5 D) 5,5 E) 6

20. Bir duvar saatinin yelkovanı 15 cm'dir. Bu yelkovanın ucu 12 dakikada kaç cm yol alır?

- A) 5π B) 6π C) 8π D) 12π E) 15π

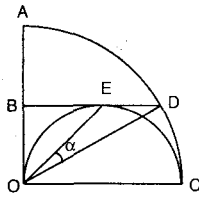
TARAMA - 12

1. Şekildeki O merkezli yarım çemberde,
 $m(\widehat{BAC}) = 50^\circ$,
 $IAEI = IEBI$ ve
 $IBHI = IAFI$ olduğuna göre
 $m(\widehat{DHF}) = \alpha$ kaç derecedir?



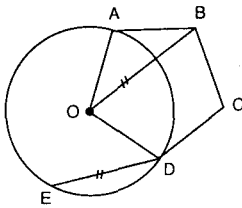
A) 5 B) 10 C) 15 D) 20 E) 25

2. Şekildeki O merkezli dörtte bir çemberde [BD] // [OC] ve [BD] yarım çembere E'de teğet olduğuna göre
 $m(\widehat{EOD}) = \alpha$ kaç derecedir?



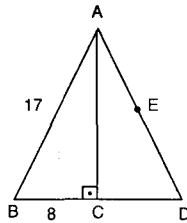
A) 40 B) 35 C) 30 D) 25 E) 15

3. Şekildeki düzgün ABCDO beşgeninin O köşesi çemberin merkezi üzerindedir.
 $IBOI = IDEI$ olduğuna göre $m(\widehat{EDO})$ kaç derecedir?



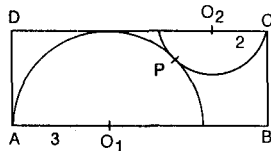
A) 34 B) 36 C) 38 D) 40 E) 45

4. Şekildeki ABC dik üçgeninde, E dış teğet çemberin merkezidir.
 $IABI = 17$ br,
 $IBCI = 8$ br olduğuna göre $\frac{IAEI}{IEDI}$ aşağıdakilerden hangisidir?



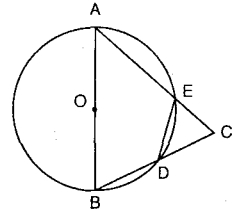
A) $\frac{1}{4}$ B) $\frac{3}{4}$ C) $\frac{8}{9}$ D) $\frac{15}{8}$ E) $\frac{17}{15}$

5. ABCD dikdörtgen, O_1 ve O_2 merkezli yarım çemberler P'de dıştan teğettir.
 $IAO_1I = 3$ br ve
 $ICO_2I = 2$ br ise
 IDO_2I nedir?



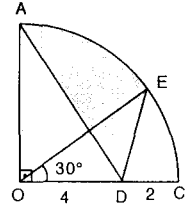
A) 7 B) 8 C) 9 D) 10 E) 11

6. Şekilde O merkez, $IABI = IACI$ ve $IBCI = 10$ br ise $IDEI$ kaç br'dir?



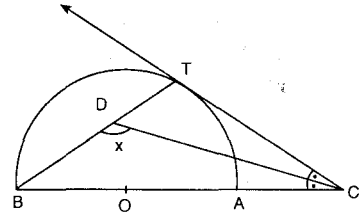
A) $\frac{5}{2}$ B) 4 C) 5 D) 6 E) $\frac{15}{2}$

7. O merkezli çeyrek çemberde
 $m(\widehat{EOC}) = 30^\circ$,
 $IBDI = 4$ br ve
 $IDCI = 2$ br ise
 taralı alan kaç br²dir?



A) 6π B) $6\pi - 3$ C) 12
 D) $6(\pi - 1)$ E) $3(\pi + 1)$

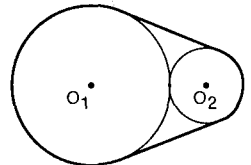
8. O merkezli yarım çemberde [CT, T noktasında teğet ve [CD] açıortay ise



$m(\widehat{BDC}) = x$ kaç derecedir?

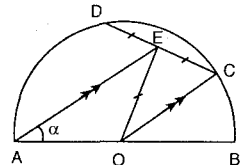
A) 150 B) 135 C) 120 D) 105 E) 100

9. Yarıçapları 18 ve 6 br olan O_1 ve O_2 merkezli çemberleri sıkıca kavrayan lı'n uzunluğu kaç br'dir?



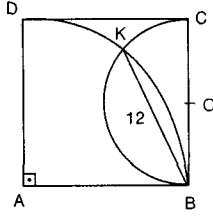
A) $4(6\sqrt{3} + 7\pi)$ B) $4(6\sqrt{3} + 5\pi)$
 C) $4(4\sqrt{3} + 7\pi)$ D) $6(4\sqrt{3} + 7\pi)$
 E) $6(6\sqrt{3} + 7\pi)$

10. O merkezli yarım çemberde $IDEI = IECI = IOEI$ ve $[AE] \parallel [OC]$ ise
 $m(\widehat{BAE}) = \alpha$ kaç derecedir?



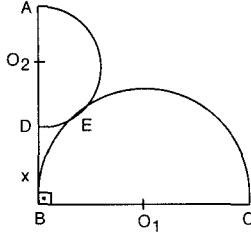
A) 60 B) 45 C) 40 D) 30 E) 15

11. ABCD kare, O merkezli yarım çember [BC] ye B'de [DC]'ye D'de teğettir. A merkezli çeyrek çember yayı üzerindeki K noktası için $IKBI = 12$ br ise **IOCI kaç br'dir?**



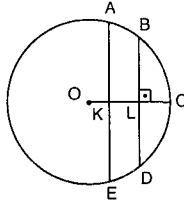
- A) $2\sqrt{5}$ B) $3\sqrt{5}$ C) $4\sqrt{5}$
D) $\frac{9\sqrt{5}}{2}$ E) $5\sqrt{5}$

12. $[AB] \perp [BC]$, $IABI = IBCI = 12$ cm, O_1 ve O_2 merkezli yarım çemberler E'de birbirine teğettir. **IDBI = x kaç cm'dir?**



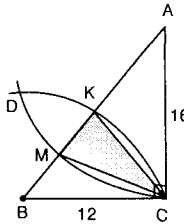
- A) 2 B) 3 C) $\frac{7}{2}$ D) 4 E) 5

13. Şekildeki O merkezli çemberde, $[AE] \parallel [BD]$, $[OC] \perp [BD]$, $IKLI = 4$ br, $IBDI = 10$ br $IAEI = 14$ br olduğuna göre **IOKI kaç br'dir?**



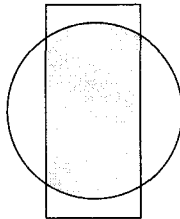
- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

14. ABC dik üçgeninde A merkezli [AC] yarıçaplı, B merkezli [BC] yarıçaplı çemberler C ve D'de kesismektedir. $[BC] \perp [AC]$, $IBCI = 12$ cm ve $IACI = 16$ cm ise **KMC üçgeninin alanı kaç cm²'dir?**



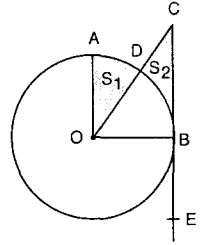
- A) 19,2 B) 24,4 C) 28,8 D) 38,4 E) 42

15. Şekildeki daire ve dikdörtgenin alanları eşittir. Taralı alan 12 cm^2 ve tüm şeklin alanı 20 cm^2 ise **dairenin alanı aşağıdakilerden hangisidir?**



- A) 14 B) 15 C) 16 D) 18 E) 19

16. Şekilde [CE], O merkezli çembere B'de teğettir. $\widehat{IADB} = \widehat{ICBI}$ ise S_1 ve S_2 bulundukları bölgenin alanları olmak üzere $\frac{S_1 + S_2}{2S_1}$



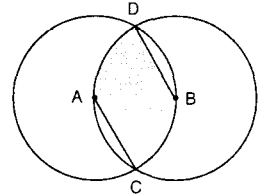
aşağıdakilerden hangisidir?

- A) 1 B) $\frac{6}{5}$ C) $\frac{8}{5}$ D) 2 E) $\frac{12}{5}$

17. Bir eşkenar dörtgenin çevresi 36 cm ve $m(\hat{A}) = 150^\circ$ ise **iç teğet çemberinin çevresi kaç π cm'dir?**

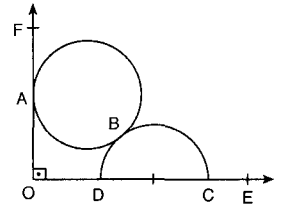
- A) 3 B) $\frac{7}{2}$ C) 4 D) $\frac{9}{2}$ E) 5

18. A ve B çemberlerin merkezleri, $IACI = 4\sqrt{3}$ birim olduğuna göre **taralı bölgenin alanı kaç π br²'dir?**



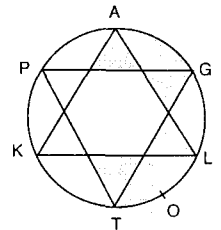
- A) 9 B) 12 C) 16 D) 18 E) 20

19. $[OA] \perp [OD]$, $IOAI = 15$ br, $IODI = 8$ br, Merkezi [OE] üzerinde bulunan çember ile, OF ye A'da teğet çizilen eş çemberler birbirine B'de teğettir. **Buna göre $IABI + IBDI$ yayları toplamı kaç π br'dir?**



- A) 4 B) 5 C) $\frac{15}{2}$ D) $\frac{17}{2}$ E) 17

20. Şekildeki çokgenin köşeleri, çemberin çevresini 6 eş parçaya bölmüştür. $\widehat{ITOLI} = 4\pi$ birim ise **taralı alanlar toplamı kaç π birimkaredir?**



- A) 20 B) 24 C) 30 D) 36 E) 48

UZAY GEOMETRİ ve KATI CİSİMLER

BÖLÜM 4

UZAYDA DOĞRU VE DÜZLEMLER

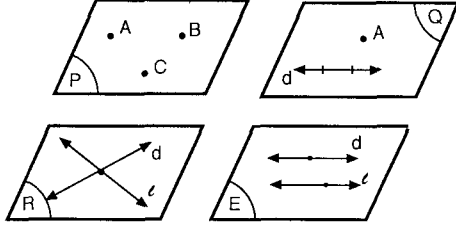
UZAYDA DOĞRU VE DÜZLEMLER

Geometride nokta, doğru ve düzlem tanımsız kavramlardır. Uzay tüm noktalar kümesidir.

AKSIYOM: Doğruluğu ispatsız kabul edilen önermelerdir.

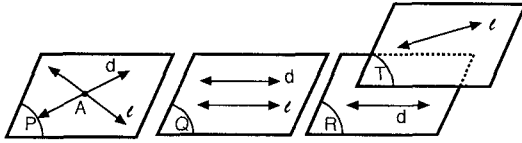
DÜZLEMİN BELİRLENMESİ

1. Doğrusal olmayan üç nokta,
2. Bir doğru ile dışındaki bir nokta,
3. Kesişen iki doğru,
4. Paralel iki doğru bir düzlem belirtir.



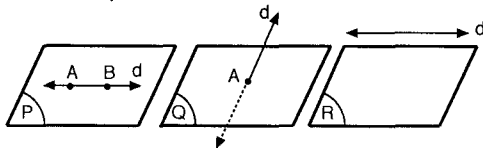
İKİ DOĞRUNUN BİRBİRİNE GÖRE DURUMLARI

1. Bir ortak noktaları varsa kesişirler.
2. Düzlemsel olup, kesişmiyorsa paralel doğrulardır.
3. Düzlemsel olmayıp kesişmiyorsa aykırı doğrulardır.



BİR DOĞRU İLE BİR DÜZLEMİN BİRBİRİNE GÖRE DURUMLARI

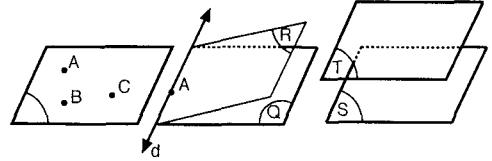
1. Doğru ile düzlemin iki ortak noktası varsa doğru düzlemin içindedir.
2. Doğru ile düzlemin bir ortak noktası varsa doğru düzlemi deler.
3. Doğru ile düzlemin ortak noktaları yoksa doğru düzleme paraleldir.



İKİ DÜZLEMİN BİRBİRİNE GÖRE KONUMLARI

1. İki düzlemin en az doğrusal olmayan 3 farklı noktası ortaksa düzlemler çakışık.

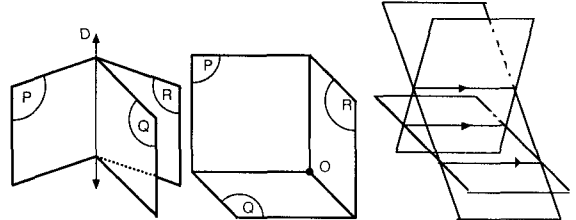
2. İki düzlemin bir ortak noktası varsa düzlemler kesişir.
3. İki düzlemin ortak noktaları yoksa düzlemler paraleldir.



ÜÇ DÜZLEMİN BİRBİRİNE GÖRE KONUMLARI

1. Çakışık.
2. Üçü de birbirine paraleldir.
3. İki paralel, diğeri onları keser.
4. Üç düzlemin bir ortak noktası vardır veya bir doğru boyunca kesişirler.
5. Üç düzlem ikişer ikişer bir doğru boyunca kesişir.

ÜÇ DÜZLEMİN ARAKESİTLERİNİN BİRBİRİNE GÖRE KONUMLARI



1. Çakışık. (D doğrusu)
2. Üçünün bir ortak noktası vardır. (O noktası)
3. Birbirlerine paraleldir.

PARALEL DOĞRU VE DÜZLEMLER:

Bir düzlem içinde kesişimleri boş küme olan iki doğruya paralel doğrular denir.

1. Düzlemde bir doğruya dışındaki bir noktadan yalnız ve ancak bir paralel doğru çizilebilir.
2. Düzlemde aynı doğruya paralel olan iki doğru birbirine paraleldir.
3. Düzlemde paralel iki doğrudan birini kesen doğru diğeri de keser.
4. Düzlemde paralel iki doğrudan birini kesen düzlem diğeri de keser.
5. Bir doğru ile bir düzlemin ortak noktaları yoksa doğru ile düzlem birbirine paraleldir.
6. Düzlemin içindeki bir doğruya paralel olan düzlemin dışındaki tüm doğrular düzleme paraleldir.
7. Paralel iki doğrudan birine paralel olan düzlem diğeri de paraleldir.
8. Bir doğru kesişen iki düzlemin arakesitine paralel ise düzlemlere de paraleldir.

9. İki düzlemin kesişimleri boşkümeye ise bu iki düzlem birbirine paraleldir.
10. Kesişen iki doğrunun her ikisi de bir düzleme paralel ise bu doğruların belirlediği düzlemde diğer düzleme paraleldir.
11. Paralel düzlemlerden birinin içindeki her doğru diğer düzleme paraleldir.
12. Paralel iki düzlem bir başka düzlemle kesilirse oluşan arakesitler birbirine paraleldir.
13. Bir takım paralel düzlemler kendilerini kesen bir doğru üzerinde orantılı parçalar ayırırsa diğer kesenler üzerinde de orantılı parçalar ayırırlar. (Tales Teoremi)
14. Uzayda verilen iki açının kenarları aynı yönde paralel ise bu açılar eşittir.
15. Aykırı iki doğru arasındaki açı, bu doğruların dışındaki bir noktadan bu doğrulara çizilen paralel doğrular arasındaki açıdır.
16. Paralel iki doğrudan birine dik olan doğru diğerine de dik ya da dik durumudur.

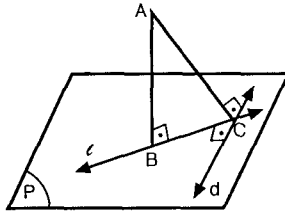
DİK DOĞRU VE DÜZLEMLER

Bir doğru düzlem içindeki tüm doğrulara dik ya da dik durumlu ise düzleme diktir.

1. Paralel iki düzlemden birine dik olan doğru diğerine de diktir.
2. Aynı doğruya dik olan iki düzlem birbirine paraleldir.
3. Paralel iki doğrudan birine dik olan düzlem diğerine de diktir.
4. Bir noktadan geçen ve bir doğruya dik olan bir düzlem vardır.
5. Bir noktadan bir doğruya dik ya da dik durumlu olmak üzere çizilen doğrular bu noktadan bu doğruya çizilen dik düzlem içinde bulunurlar.

ÜÇ DİKME TEOREMİ:

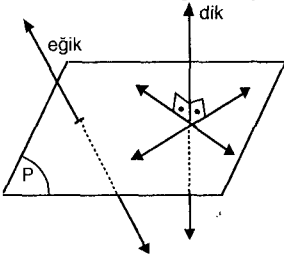
Uzayda bir noktadan bir düzleme ve düzlem içindeki herhangi bir doğruya birer dikme çizilirse, bu iki dikme ayağını birleştiren doğru düzlem içindeki doğruya diktir.



$[AB] \perp (P)$ ve $[AC] \perp d \Leftrightarrow [BC] \perp d$ dir.

$\Leftrightarrow \ell \perp d$ dir.

* Bir doğru bir düzleme dik değilse eğiktir.



TEOREM: Bir düzlemin dışındaki bir noktadan düzlemi delen bir takım doğrular çizilirse;

1. Dikme eğiklerin hepsinden kısadır.
 2. Dikmenin düzlemi deldiği noktadan eşit uzaklıkta düzlemi delen eğikler eş uzunluktadır.
 3. Dikmenin düzlemi deldiği noktadan en uzakta düzlemi delen eğik en uzundur.
- * Bir noktanın bir düzleme uzaklığı noktadan düzleme inilen dikmenin uzunluğudur.
- * Düzleme paralel bir doğrunun düzleme uzaklığı, doğru üzerindeki bir noktadan düzleme inilen dikmenin uzunluğudur.

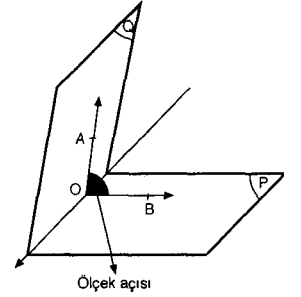
İKİ DÜZLEMLİ AÇILAR VE DİK DÜZLEMLER:

Bir doğru boyunca kesişen iki yarım düzlemin oluşturduğu açıya iki düzlemlî açı ya da iki yüzlü açı denir. Bu düzlemlerin arakesiti üzerinde alınan bir O noktasından biri (P) diğeri (Q) düzlemi içinde olmak üzere çizilen [OA ve [OB ışınlarının oluşturduğu açıya bu iki düzlemlî açının ölçek açısı denir.

* Kesişen iki düzlemin ölçek açısı 90° ise bu iki düzlem birbirine diktir.

* Bir doğru bir düzleme dikse, bu doğrudan geçen her düzlem bu düzleme diktir.

* Bir düzleme dik olmayan bir doğrudan geçmek ve bu düzleme dik olmak üzere yalnız bir düzlem çizilebilir.



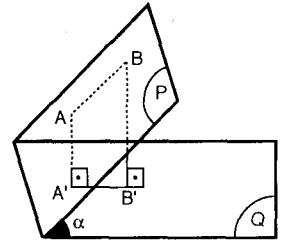
DİK İZDÜŞÜM

Bir noktadan bir düzleme indirilen dikmenin ayağına bu noktanın bu düzlem üzerindeki dik izdüşümü denir.

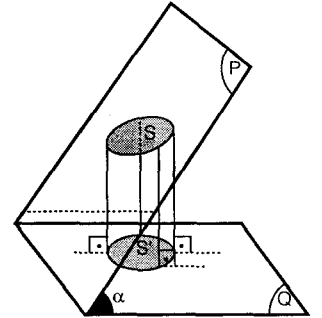
A noktasının dik izdüşümü A' noktasıdır. A' noktasının bulunduğu düzlem izdüşüm düzlemidir. $[AA']$ doğru parçasına izdüşüren denir.

Herhangi bir doğru, doğru parçası ya da şeklin bir düzlem üzerindeki izdüşümünü bulmak için şeklin tüm noktalarının bu düzlem üzerindeki izdüşümünü almak gerekir.

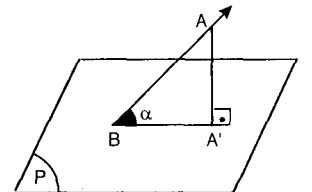
1. (P) ve (Q) düzlemlerinin ölçek açısı α dir. (P) düzlemi içerisinde $[AB']$ 'nin (Q) düzlemi üzerindeki dik izdüşümü $[A'B']$ ise;
 $|A'B'| = |AB| \cdot \cos \alpha$ dir.



2. (P) ve (Q) düzlemlerinin ölçek açısı α dır. (P) düzlemi içerisindeki S alanının (Q) düzlemi üzerindeki dik izdüşümü S' ise;
 $S' = S \cdot \cos \alpha$ dir.

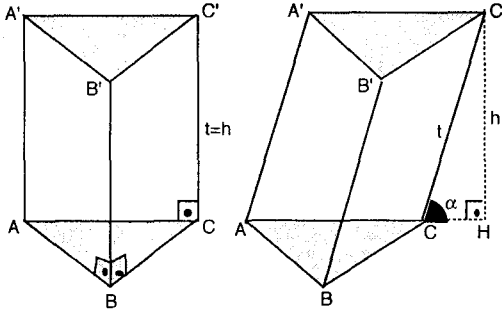


3. Bir doğrunun bir düzlem üzerindeki dik izdüşümüyle oluşturduğu açıya doğrunun düzleme göre eğim açısı denir.



PRİZMALAR

PRİZMALAR



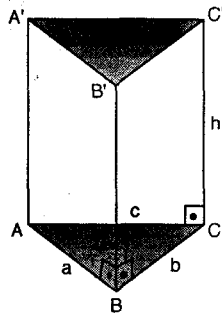
Düzlemsel parçaların herbirine prizmanın yüzleri, taralı yüzlere tabanları, öteki yüzlere ise yan yüzleri adı verilir. Prizmaların yan yüzleri birer paralelkenardır. Yan yüzlerinin tümü dikdörtgen olan prizmalara DİK PRİZMA, dik olmayan prizmalara ise EĞİK PRİZMA adı verilir.

Prizmalar dik ve eğik oluşlarından başka tabanlarındaki geometrik şeklin türüne göre de adlandırılırlar. Tabanı üçgen olanlar üçgen prizma dörtgen olanlar dörtgen prizma gibi...

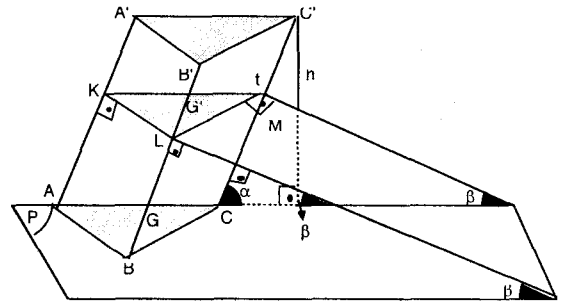
- ★ $IAA'I = IBB'I = ICC'I = t$ (yanal ayrit uzunluğu)
- ★ Prizmaların tabanlarındaki geometrik şekiller eş şekiller olup, eş şekillerin alanları da eştir.
- ★ Prizmalarda taban düzlemleri arasındaki uzaklık yükseklik olup, dik prizmalarda yükseklik yanal ayritta eşittir. Eğik prizmalarda ise;
 $h = t \cdot \sin \alpha$ dir.
- ★ Tabanları paralelkenar olan prizmalara paralel yüzlü denir.
- ★ Tabanları düzgün çokgen olan dik prizmalara düzgün prizma denir.

DİK PRİZMALARDA;

- $S_Y \rightarrow$ Yanal alan
 $S_T \rightarrow$ Taban alanı
 $S \rightarrow$ Tüm alan
 $\Ç_T \rightarrow$ Taban çevresi
 $V \rightarrow$ Hacim
 $h \rightarrow$ yükseklik olmak üzere
1. $S_Y = \Ç_T \cdot h$
 2. $S = 2S_T + S_Y$
 3. $V = S_T \cdot h$ dir.



EĞİK PRİZMALARDA;

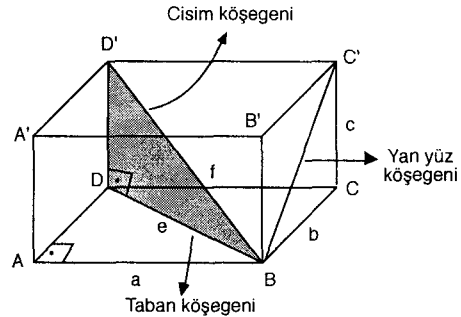


Bir eğik prizma yanal ayritına dik bir düzlemle kesilirse dik kesiti oluşur.

1. Dik kesitin alanı G'
 Taban alanı G ise
 $G' = G \cdot \cos \beta$
 $G' = G \cdot \sin \alpha$ dir.
2. $S_Y = (\text{Dik kesit çevresi}) \cdot t$
3. $S = 2S_T + S_Y$
4. $V = S_T \cdot h$
 $V = A(KLM) \cdot t$ dir.

DİKDÖRTGENLER PRİZMASI:

Tüm yüzleri dikdörtgen olan prizmadır.



- ★ Karşılıklı yüzeyler eşittir.
- 1. $S_Y = 2ac + 2bc$
- 2. $S = 2S_T + S_Y$
 $S = 2ab + 2ac + 2bc$
 $S = 2(ab + ac + bc)$ dir.
- 3. $V = S_T \cdot h = a \cdot b \cdot c$
- 4. $e^2 = a^2 + b^2 \Rightarrow e = \sqrt{a^2 + b^2}$ (Taban köşegeni)
 $f^2 = a^2 + b^2 + c^2$
 $f = \sqrt{a^2 + b^2 + c^2}$ dir. (Cisim köşegeni)

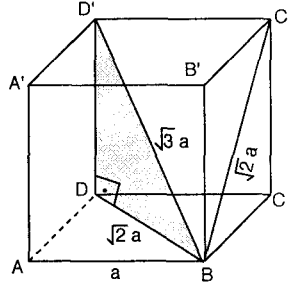
KÜP

Tüm yüzleri eş kareler olan dik prizmadır.

1. Tüm ayrıtlarının toplamı $= 12a$

2. $S = 6a^2$

3. $V = a^3$



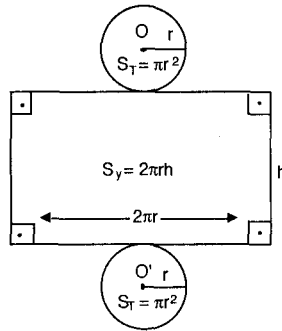
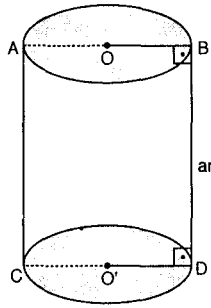
4. Yüz köşegeni $= \sqrt{2} a$

5. Cisim köşegeni $= \sqrt{3} a$ dır.

6. Kenarlardan birinin cisim köşegeni üzerindeki dik izdüşümü köşegenin üçte biridir.

SİLİNDİR

Tabanları daire olan prizmadır.

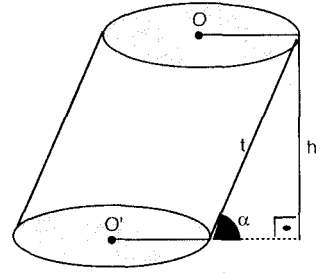
DİK (DÖNEL) SİLİNDİR:

1. $S_T = \pi r^2$
2. $S_Y = 2\pi rh$
3. $S = 2\pi r^2 + 2\pi rh$
 $S = 2\pi r (r + h)$
4. $V = \pi r^2 h$ dır.

EĞİK SİLİNDİR:

$$\sin \alpha = \frac{h}{t}$$

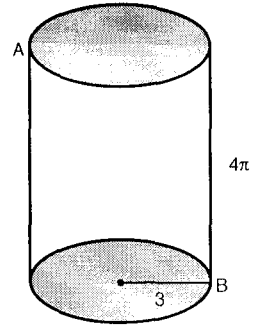
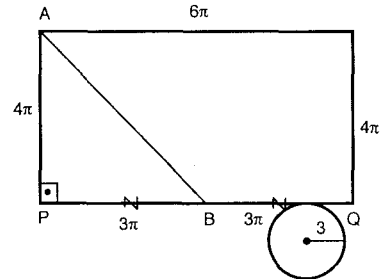
$$h = t \cdot \sin \alpha \text{ dır.}$$



- ★ Katı cisimlerin yüzeyleri üzerinde yapılacak çalışmalarda cisimlerin açık şekillerinden yararlanılır.

ÖRNEK:

Silindirik biçimindeki şekildeki kütüğün taban yarıçapı 3cm, yüksekliği 4π cm dir. A noktasından B noktasına gidecek olan karınca en az kaç cm yol gider?

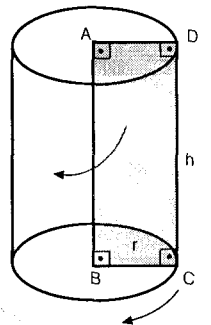
**ÇÖZÜM:**

Silindiri A noktası sol üstte kalacak biçimde açarsak B noktası PQ doğru parçasının tam orta noktasında olur.

İPBI = 3π ve APB dik üçgeninden $|AB| = 5\pi$ elde edilir.

Karınca en az 5π cm yol gider.

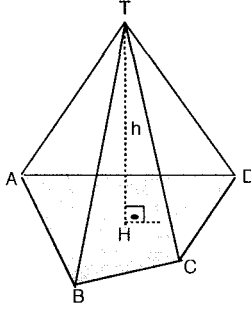
Şekildeki dikdörtgensel bölge bir kenarı etrafında 360° döndürüldüğünde dik silindir oluşur.



PİRAMİTLER

PİRAMİTLER

Bir düzlem üzerinde bulunan bir çokgen ile düzlem dışında bir T noktası alalım. Çokgenin tüm noktalarının T noktası ile birleştirilmesi sonucu oluşan cisme piramit, T noktasına piramidin tepe noktası, çokgene ise piramidin, tabanı denir.



Piramitler tabandaki çokgenin türüne göre adlandırılırlar.

T tepe noktasının taban düzlemindeki dik izdüşümü H ise $ITHI = h$ piramidin yüksekliğini oluşturur.

TA, TB, TC, TD piramidin yanal ayrıtlardır.

1. $S = S_T + S_Y$
2. $V = \frac{1}{3} S_T \cdot h$ dir.

DÜZGÜN PİRAMİT:

Tabanı düzgün çokgen, yan yüzleri eş ikizkenar üçgenlerdir.

Bir düzgün piramitte tepe noktasının taban düzlemindeki dik izdüşümü daima tabanın ağırlık merkezidir.

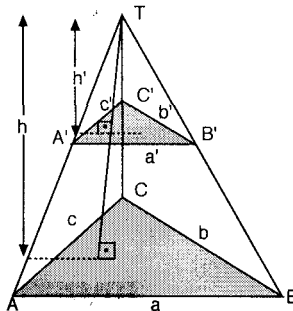
KESİK PİRAMİT:

Bir piramidin tabana paralel bir düzlemlle kesilmesiyle oluşur.

$$\frac{a'}{a} = \frac{b'}{b} = \frac{c'}{c} = \frac{h'}{h} = k$$

$$\frac{A(T, A'B'C')}{A(T, ABC)} = k^2$$

$$\frac{V(T, A'B'C')}{V(T, ABC)} = k^3$$



DÜZGÜN DÖRTYÜZLÜ

Tüm yüzleri eşkenar üçgen olan piramittir.

$$IAHI = \frac{a\sqrt{3}}{2}$$

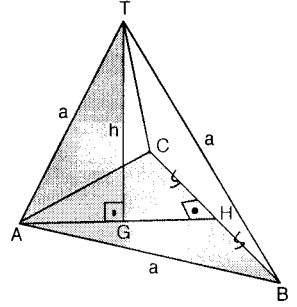
$$IAGI = \frac{2}{3} \cdot \frac{a\sqrt{3}}{2} = \frac{a\sqrt{3}}{3}$$

$$h^2 = a^2 - \left(\frac{a\sqrt{3}}{3}\right)^2$$

$$h = \frac{\sqrt{6}a}{3} \text{ (cisim yüksekliği)}$$

$$S = 4 \cdot \frac{a^2\sqrt{3}}{4} = a^2\sqrt{3}$$

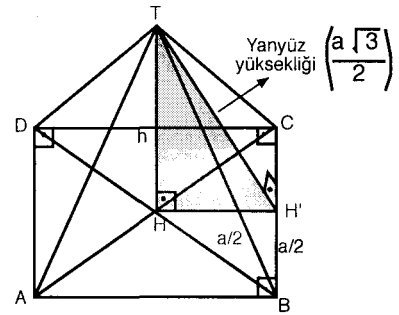
$$V = \frac{1}{3} \cdot \frac{a^2\sqrt{3}}{4} \cdot \frac{\sqrt{6}a}{3} = \frac{\sqrt{2}a^3}{12} \text{ dir.}$$



ZAFAER YAYINLARI

DÜZGÜN SEKİZYÜZLÜ:

Yan yüzleri eşkenar üçgen olan 2 eş kare piramidin taban tabana birleştirilmesiyle oluşan cisimdir.



$$h^2 = \left(\frac{\sqrt{3}a}{2}\right)^2 - \left(\frac{a}{2}\right)^2$$

$$h = \frac{\sqrt{2}a}{2} \text{ kare piramidin cisim yüksekliği}$$

$$S = 8 \cdot \frac{a^2\sqrt{3}}{4} = 2\sqrt{3}a^2$$

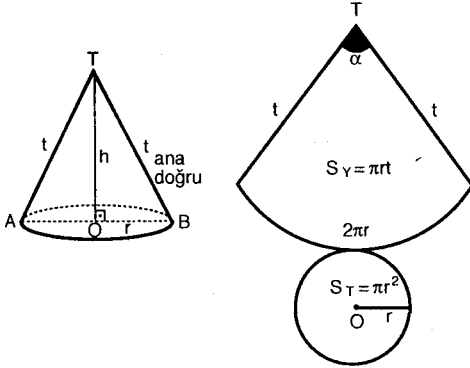
$$V = 2 \cdot \frac{1}{3} \cdot a^2 \cdot \frac{\sqrt{2}a}{2} = \frac{\sqrt{2}a^3}{3} \text{ dür.}$$

Düzgün sekizyüzlünün en uzak iki noktası arasındaki

$$\text{uzaklık} = 2h = 2 \cdot \frac{\sqrt{2}a}{2} = \sqrt{2}a \text{ dir.}$$

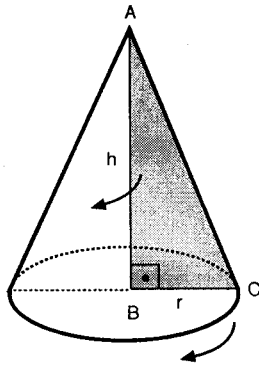
KONİ

Bir dairenin tüm noktalarının daire düzlemi dışındaki bir T noktası ile birleştirilmesi sonucu oluşan cisimdir.

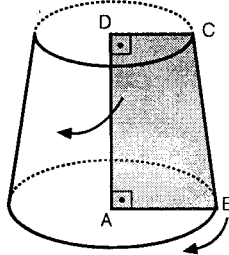
DİK (DÖNEL) KONİ:

1. $\alpha = \frac{360r}{t}$
2. $S_T = \pi r^2$
3. $S_Y = \pi r t$
4. $S = \pi r^2 + \pi r t = \pi r (r + t)$
5. $V = \frac{1}{3} \pi r^2 h$ dir.

★ Şekildeki gibi bir dik üçgensel bölge bir dik kenarı etrafında 360° döndürüldüğünde dik koni oluşur.



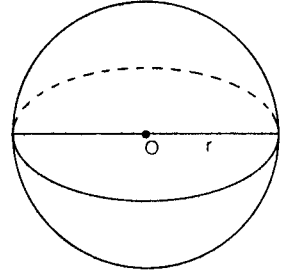
★ Bir dik yamuğun yüksekliği etrafında 360° döndürülmesiyle kesik koni oluşur.

**KÜRE**

Uzayda sabit bir noktaya eşit uzaklıkta bulunan noktaların kümesidir.

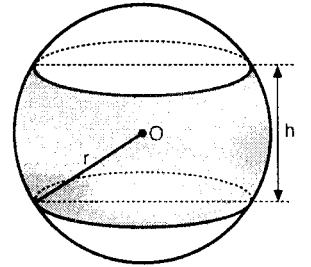
$$S = 4\pi r^2$$

$$V = \frac{4}{3} \pi r^3 \text{ dür.}$$

**KÜRE KUŞAĞI:**

Bir küre yüzeyinin paralel iki düzlem arasında kalan kısmına küre kuşağı denir.

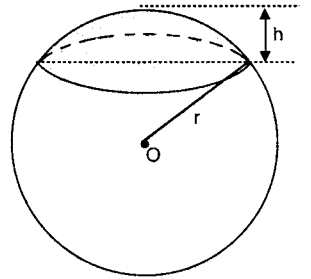
$$S = 2\pi r h \text{ dir.}$$

**KÜRE KAPAĞI:**

Bir küre yüzeyi bir düzlemle kesilirse iki parçaya ayrılır. Bunlardan her birine küre kapağı denir. Küre kapağının alanı:

$$S = 2\pi r h \text{ dir.}$$

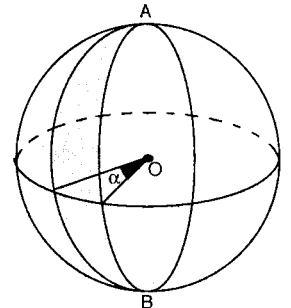
$$V = \frac{1}{3} \pi h^2 (3r - h) \text{ dir.}$$

**KÜRE DİLİMİ:**

Kürenin [AB] çapından geçen iki yarım düzlem arasında kalan kısmına denir.

$$S = \frac{4\pi r^2 \alpha}{360} = \frac{\pi r^2 \alpha}{90} \text{ dir.}$$

$$V = \frac{4}{3} \pi r^3 \cdot \frac{\alpha}{360} = \frac{\pi r^3 \alpha}{270} \text{ dir.}$$



UZAYDA DOĞRU VE DÜZLEMLER

TEST

1

1. Uzayda 6 nokta en çok kaç düzlem belirtir?

- A) 10 B) 15 C) 20 D) 21 E) 42

2. d ve ℓ aykırı doğrulardır. d doğrusundan geçen ℓ doğrusuna paralel olan kaç düzlem çizilebilir?

- A) 0 B) 1 C) 2
D) 3 E) Sonsuz

3. Bir ABCD yamuğu ile yamuk düzlemi dışında bir K noktası alınıyor. (KAD) ve (KBC) düzlemlerinin arakesiti aşağıdakilerden hangisidir?

- A) CK doğrusu
B) DK doğrusu
C) AK doğrusu
D) $AC \cap BD = M$ ise, KM doğrusu
E) $AD \cap BC = N$ ise, KN doğrusu

4. Bir doğru ile bir düzlem birbirine dik ise, aşağıdakilerden hangileri doğrudur?

- I. Doğru, düzlemi kestiği noktadan geçen düzlemin tüm doğrularına diktir.
II. Doğru ile düzlemin arakesiti bir tek noktadan oluşur.
III. Düzleme paralel olan bir doğru, düzlemi dik kesen doğruya diktir.

- A) Yalnız I B) I ve II C) I ve III
D) II ve III E) I, II ve III

5. Aşağıdaki önermelerden hangisi yanlıştır?

- A) Bir d doğrusu P düzlemine dikse, d doğrusundan geçen her düzlem P düzlemine diktir.
B) Dik iki düzlemden birisi içindeki her doğru, öteki düzleme diktir.
C) Paralel doğruların bir düzlem üzerindeki dik izdüşümleri de paraleldir.
D) Dik iki düzlemden birine dik olan bir doğru, diğer düzleme paraleldir.
E) Bir düzleme paralel olan doğru, düzlem üzerindeki dik izdüşümüne paraleldir.

6. Bir ABC açısının bir P düzlemi üzerindeki dik izdüşümü dik açı olduğuna göre, ABC açısı için aşağıdakilerden hangisi daima doğrudur?

- A) Dar açıdır.
B) Dik açıdır.
C) Geniş açıdır.
D) En az bir kenarı P düzlemine paraleldir.
E) En az bir kenarı P düzlemine diktir.

7. Aşağıdakilerden kaç tanesi doğrudur?

- I. İki düzlemin arakesit doğrusu üçüncü bir düzleme dikse, kesişen düzlemler de ayrı ayrı üçüncü düzleme diktir.
II. Aynı doğruya farklı noktalarda dik olan iki düzlem paraleldir.
III. Paralel iki düzlemden birine dik olan düzlem diğerine de diktir.
IV. Paralel iki düzlemden birini kesen doğru diğeri de keser.

- A) 0 B) 1 C) 2 D) 3 E) 4

8. ABC ikizkenar üçgeninin P düzlemi üzerindeki dik izdüşümü bir eşkenar üçgendir.

- $[AD] \perp [DB]$,
 $[AE] \perp [BC]$,

$$A(\triangle ABC) = 24 \text{ cm}^2$$

ve $IAEI = 8 \text{ cm}$ ise,

$A(\triangle BCD)$ kaç cm^2 dir?

- A) $6\sqrt{3}$ B) $8\sqrt{3}$ C) $9\sqrt{3}$
D) $12\sqrt{3}$ E) $16\sqrt{3}$

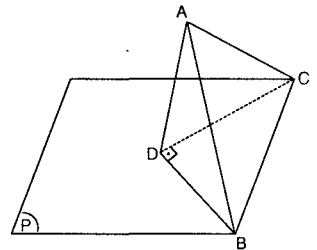
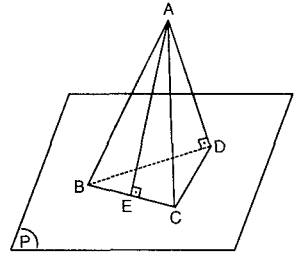
9. ABC eşkenar üçgeninin P düzlemi üzerindeki dik izdüşümü bir dik üçgendir.

$$IADI = 6\sqrt{2} \text{ cm}$$

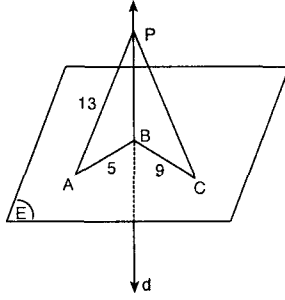
ise, $IBCI$ kaç cm dir?

- A) 9 B) 12 C) $8\sqrt{3}$ D) 15 E) 18

ZAFER YAYINLARI



10. $d \perp E$,
 $|PA| = 13$ cm,
 $|AB| = 5$ cm ve
 $|BC| = 9$ cm ise,
 $|PC|$ kaç cm dir?



A) 15 B) 16 C) 18 D) 20 E) 25

11. Farklı üç düzlem uzayı en az a, en çok b bölgeye ayırırsa, **a + b toplamı aşağıdakilerden hangisidir?**

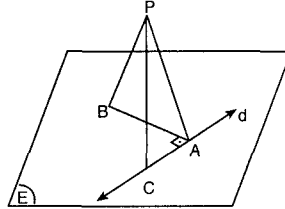
A) 5 B) 6 C) 8 D) 9 E) 12

12. **Aşağıdakilerden hangileri doğrudur?**

- I. Dört doğru düzlemi en fazla 10 bölgeye ayırır.
 II. Her paralel iki doğrudan bir tek düzlem geçer.
 III. Doğrunun dışındaki bir noktadan geçen ve doğruya paralel olan birden çok doğru çizilebilir.

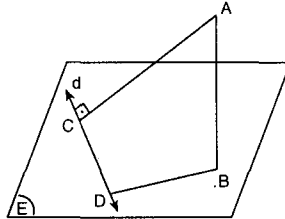
A) Yalnız I B) I ve II C) I ve III
 D) Yalnız II E) I, II ve III

13. $d \subset E$,
 $PB \perp E$,
 $[BA] \perp d$,
 $|PB| = 15$ cm,
 $|BA| = 8$ cm ve
 $|AC| = 6$ cm olduğuna göre,
 $\Delta A(PAC)$ kaç cm^2 dir?



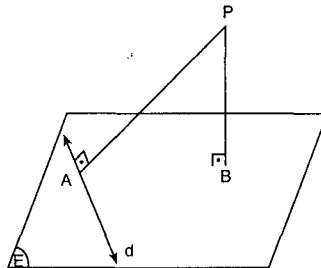
A) 24 B) 48 C) 51 D) 56 E) 68

14. $[AB] \perp E$,
 $[AC] \perp d$,
 $|AC| = 8$ cm,
 $|AB| = 4\sqrt{3}$ cm,
 $|CD| = 3$ cm ise,
 $|BD|$ kaç cm dir?



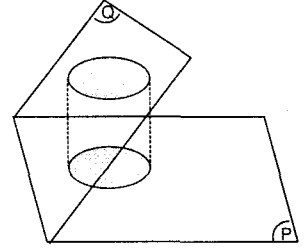
A) 4 B) 5 C) 6 D) $6\sqrt{2}$ E) 10

15. P noktasının; E düzlemine olan uzaklığı 12 br, E düzlemi içinde bulunan d doğrusuna olan uzaklığı 13 br ise **|AB| kaç br'dir?**



A) 5 B) $5\sqrt{2}$ C) $5\sqrt{3}$
 D) 10 E) $10\sqrt{3}$

16. Şekildeki P ve Q düzlemleri arasındaki ölçek açısı 60° dir. **Q düzlemi üzerinde 8 cm yarıçaplı çemberin, P düzlemi üzerindeki dik izdüşümü olan elipsin alanı kaç cm^2 dir?**

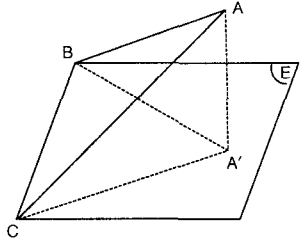


A) 8π B) $\frac{32\pi}{3}$ C) 16π D) 32π E) 64π

17. P düzlemi ile Q düzleminin oluşturduğu iki düzlemler açının ölçüsü 45° dir. P düzlemindeki bir karenin, Q düzlemi üzerindeki dik izdüşümünün alanı $8\sqrt{2} \text{ cm}^2$ dir. **Karenin çevresi kaç cm dir?**

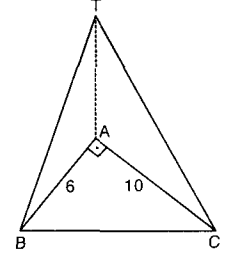
A) 8 B) $8\sqrt{2}$ C) 16
 D) $16\sqrt{2}$ E) 32

18. ABC üçgen düzlemi ile E düzleminin ölçek açısı 30° dir. $|BC| = 12$ cm, A'nın E'deki dik izdüşümü A' ve $|AA'| = 6$ cm ise, **ABC üçgeninin E düzlemindeki dik izdüşümünün alanı kaç cm^2 dir?**



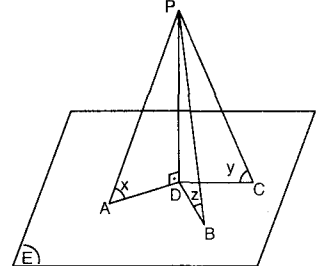
A) 36 B) $36\sqrt{3}$ C) 54
 D) $48\sqrt{3}$ E) 72

19. $[AB] \perp [AC]$,
 $|AB| = 6$ cm,
 $|AC| = 10$ cm ve
 $\Delta [AT] \perp (ABC)$ dir.
 ABC düzlemi ile TBC düzleminin ölçek açısı 60° ise, **Alan(TBC) kaç cm^2 dir?**



A) 30 B) 40 C) 48 D) 59 E) 60

20. $[PD] \perp E$,
 $m\hat{PAD} = x$,
 $m\hat{PBD} = z$,
 $m\hat{PCD} = y$ dir.
 $x < z < y$ ve
 $|PA| = 10$ cm,
 $|PC| = 6$ cm ise,
|PB| kaç farklı tam sayı değeri alır?



A) 1 B) 2 C) 3 D) 4 E) 5

UZAYDA DOĞRU VE DÜZLEMLER

TEST

2

1. Aşağıdaki önermelerden kaç tanesi doğrudur?

- I. Üç düzlem bir doğru boyunca kesişebilir.
- II. Bir düzleme ait P noktasından geçen ve bu düzleme dik olan E_1 ve E_2 gibi iki düzlem olabilir.
- III. Bir düzleme dışındaki bir noktadan geçen ve bu düzleme dik olan bir tek düzlem çizilebilir.
- IV. Bir düzlemin dışındaki A noktasından geçen ve düzleme paralel bir tek düzlem vardır.

A) 0 B) 1 C) 2 D) 3 E) 4

2. İki paralel doğru, bulunduğu düzlemi en çok kaç ayrı bölgeye ayırır?

A) 8 B) 9 C) 10 D) 11 E) 12

3. R^3 'te A, B, C, D, E, F noktaları A dan geçen en fazla kaç düzlem belirtir?

A) 1 B) 3 C) 5 D) 6 E) 10

4. R^3 te aralarında 5 birim uzaklık bulunan A ve B gibi iki noktaya, 4 birim uzaklıktaki noktaların geometrik yeri aşağıdakilerden hangisidir?

A) İki nokta B) Çember C) Elips
D) Küre E) Doğru

5. Aşağıdaki şekillerden hangisini çizmek için R^3 'e ihtiyacımız olmaz?

A) Küre B) Küp C) Dört yüzlü
D) Çember E) Piramit

6. Aşağıdaki önermelerden hangisi yanlıştır?

- A) Bir doğruya dışındaki bir noktadan bir ve yalnız bir dik doğru çizilebilir.
- B) Paralel iki doğru bir düzlem belirtir.
- C) Kesişen iki doğru bir düzlem belirtir.
- D) Üç nokta bir düzlem belirtir.
- E) Bir düzleme dışındaki bir noktadan bir ve yalnız bir dik doğru çizilebilir.

7. Aşağıdaki önermelerin hangileri yanlıştır?

- I. Bir düzleme dik olan farklı iki düzlem paraleldir.
- II. Paralel iki düzlemden birini kesen bir doğru diğeri de keser.
- III. Bir düzleme dışındaki bir noktadan bir tek paralel düzlem çizilebilir.

A) Yalnız I B) Yalnız II C) I ve II
D) I ve III E) II ve III

8. Aşağıdaki önermelerin hangileri daima doğrudur?

- I. Bir düzleme dışındaki bir noktadan geçen bir tek dik doğru çizilebilir.
- II. Paralel üç doğru bir tek düzlem belirtir.
- III. Bir doğruya dışındaki bir noktadan yalnız bir paralel düzlem çizilebilir.
- IV. Bir doğru ile bir düzlemin ortak noktası yoksa doğru düzleme paraleldir.

A) I ve III B) I ve IV C) I, II ve III
D) III ve IV E) I, III ve IV

9. R^3 te aşağıdakilerden hangisi yanlıştır?

- A) Uzayda bir doğru kesişen iki doğrudan birini mutlaka keser.
- B) Uzayda paralel üç doğru farklı düzlemlerin elemanı olabilir.
- C) Paralel iki doğrudan birini kesen bir doğru diğeri kesmeyebilir.
- D) Bir doğru paralel iki düzlemden birini keserse diğeri de keser.
- E) Aykırı doğrular düzlem belirtmez.

10. E_1 ve E_2 kesişen iki düzlem ve ölçek açıları 60° dir. E_1 düzlemine ait bir A noktasının düzlemlerin arakesit doğrusuna uzaklığı $12\sqrt{3}$ birim ise, A noktasının E_2 düzlemine uzaklığı kaç birimdir?

A) $3\sqrt{3}$ B) 6 C) 9
D) $6\sqrt{3}$ E) 18

11. Ölçek açısı 60° olan iki düzlemin birinde arakesit ile 30° lik açı yapan 2 cm uzunluğundaki bir doğru parçasının diğer düzlem üzerindeki dik izdüşüm uzunluğu kaç cm dir?

A) $\frac{\sqrt{13}}{2}$ B) $\frac{\sqrt{13}}{4}$ C) $\sqrt{13}$
D) $2\sqrt{13}$ E) $4\sqrt{13}$

12. E_1 ve E_2 kesişen iki düzlem, $A \in E_1$ ve $B \in E_2$ dir. $[AB] \perp E_1$, $|AB| = 10$ cm ve B'nin arakesit doğrusuna uzaklığı 20 cm ise, **iki düzlemin ölçkek açısı kaç derecedir?**

A) 80 B) 75 C) 60 D) 45 E) 30

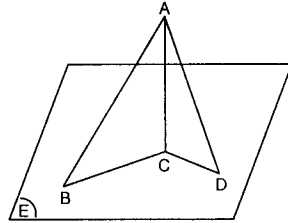
13. R^3 de, $|AB| = 12\sqrt{3}$ cm lik doğru parçası ile bu doğru parçasını 60° lik açı ile orta noktasından kesen bir düzlem veriliyor. **Buna göre, A noktasının düzleme uzaklığı kaç cm dir?**

A) 6 B) 7 C) 8 D) 9 E) 10

14. Bir kenarı a birim olan karenin üzerinde bulunduğu düzlem ile 60° lik açı yapan başka bir düzlem üzerindeki dik izdüşümünün alanı 36 cm^2 ise, **a kaç cm dir?**

A) 4 B) 6 C) $6\sqrt{2}$ D) 9 E) 12

15. $[AC] \perp E$,
 $|AB| = 9$ cm,
 $|AD| = 12$ cm ve
 $|CD| = 2 \cdot |CB|$ ise,
 $|AC|$ kaç cm dir?

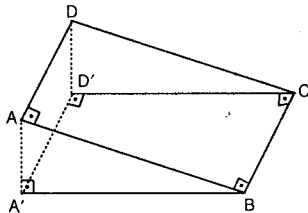


A) $2\sqrt{7}$ B) 5 C) 6 D) 7 E) $2\sqrt{15}$

16. Bir düzlemi n tane farklı doğru en çok 92 farklı düzlemsel bölgeye ayırabiliyorsa, **n kaçtır?**

A) 11 B) 12 C) 13 D) 14 E) 17

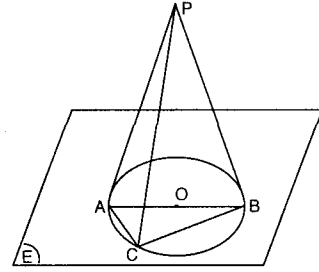
17.



ABCD dikdörtgen şeklinde meyilli bir arsadır. Yapılan kazı sonucunda arsa $A'BCD'$ karesine dönüşüyor. $|AB| = 30$ m ve $|BC| = 24$ m olduğuna göre, **AA' kazı derinliği kaç metredir?**

A) 2 B) 6 C) 12 D) 15 E) 18

18.



O merkezli çember E düzleminin elemanıdır. P düzlemin dışında ve $[PA] \perp E$ br, $|PA| = 12$ br ve $|AC| = 9$ br ve $|BC| = 8$ br ise, **$|PB|$ kaç br dir?**

A) 15 B) 16 C) 17 D) 18 E) 20

19. P düzlemi içinde bulunan ABC üçgeninde

$m(\angle B) = 90^\circ$ dir.

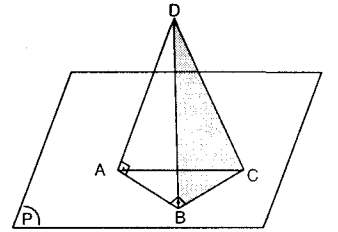
$[DA] \perp P$,

$|AB| = 8$ cm,

$|BC| = 6$ cm ve

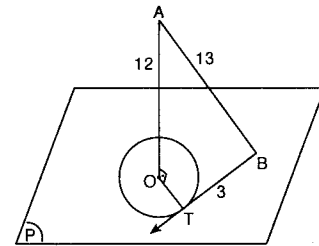
$\Delta A(BC) = 51$

cm^2 ise, **$|AD|$ kaç cm dir?**



A) 12 B) 15 C) 16 D) 17 E) 20

20.



P düzlemi içindeki O merkezli çembere $[BT]$ teğeti çiziliyor.

$[AO] \perp [OT]$,

$|AO| = 12$ cm,

$|AB| = 13$ cm,

$|BT| = 3$ cm olduğuna göre, **çemberin yarıçapı kaç cm dir?**

A) 2 B) 3 C) 4 D) 5 E) 6

PRİZMALAR

TEST

1

1. Bir küpün hacmi 26 kat artırılırsa alanı kaç kat artar?

A) 4 B) 5 C) 6 D) 8 E) 9

2. Bir köşesinden çıkan ayrıt uzunlukları farklı tamsayılar olan dikdörtgenler prizmasının hacmi, bir ayrıtı 6 cm olan küpün hacmine eşittir.

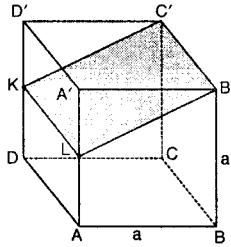
Dikdörtgenler prizmasının alanı en az kaç cm^2 dir?

A) 228 B) 232 C) 246 D) 288 E) 712

3. Hacmi 240 cm^3 ve yanal ayrıtı 12 cm olan eğik prizmanın taban alanı 40 cm^2 olduğuna göre, **yanal ayrıtı taban düzlemi ile kaç derecelik açı yapar?**

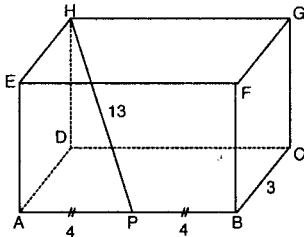
A) 30 B) 45 C) 60 D) 75 E) 90

4. Şekildeki küpün bir ayrıtı a cm dir.
 $IDKI = IKD'I$
 $IALI = ILA'I$
 $KLB'C'$ tabanının üstündeki bölümün hacmi 432 cm^3 ise, a kaç cm dir?



A) 8 B) 12 C) 14 D) 16 E) 18

- 5.



Şekildeki dikdörtgenler prizmasında,

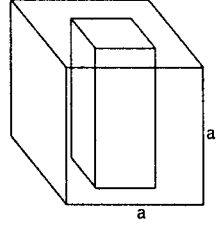
$IAPI = IPBI = 4 \text{ cm}$

$IBCI = 3 \text{ cm}$,

$IPHI = 13 \text{ cm}$ olduğuna göre, **dikdörtgenler prizmasının hacmi kaç cm^3 tür?**

A) 72 B) 96 C) 144 D) 196 E) 288

6. Kenar uzunlukları a cm olan şekildeki küpün içine taban düzlemleri ortak ve taban ayrıtları arasındaki uzaklık x cm olan dikdörtgenler prizması yerleştiriliyor. **İkisi arasındaki boşluk su ile doldurulursa suyun hacmi aşağıdakilerden hangisi ile ifade edilir?**

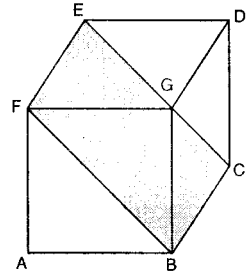


A) $a \cdot x \cdot (a - x)$ B) $a \cdot x \cdot (a - 2x)$
 C) $a^2 - 2x^2$ D) $4ax \cdot (a - x)$
 E) $8ax \cdot (a - x)$

7. Bir dikdörtgenler prizmasının bir köşesinden geçen üç ayrıtının uzunlukları ardışık üç çift sayı ve cisim köşegen uzunluğu $2\sqrt{29}$ cm olduğuna göre, **prizmanın alanı kaç cm^2 dir?**

A) 180 B) 196 C) 208 D) 232 E) 240

8. Şekildeki küpte, $A(BCEF) = 72\sqrt{2} \text{ cm}^2$ ise, **BCDG yüzünün ağırlık merkezinin BCEF düzlemine uzaklığı kaç cm dir?**



A) 2 B) $2\sqrt{2}$ C) 3 D) $2\sqrt{3}$ E) 4

9. Tabanı $\triangle ABC$ olan bir üçgen dik prizmada, $m(\hat{C}) = 60^\circ$, $ICAI = 5\sqrt{3} \text{ cm}$, $ICBI = 4 \text{ cm}$ ve hacmi 90 cm^3 olduğuna göre, **yüksekliği kaç cm dir?**

A) 5 B) 6 C) 8 D) 10 E) 12

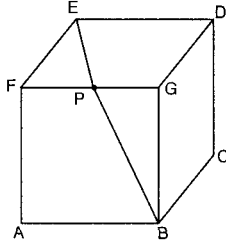
10. Tabanı eşkenar üçgen olan dik prizmanın yüksekliği $6\sqrt{3} \text{ cm}$ ve hacmi 288 cm^3 olduğuna göre, **tabanın bir ayrıtı kaç cm dir?**

A) 5 B) 6 C) 8 D) 9 E) 10

11. Şekildeki küpte

$P \in [FG]$,

$|BP| + |PE|$ toplamının en küçük değeri $6\sqrt{5}$ br ise, **küpün cisim köşegeni kaç br dir?**



- A) 6 B) $6\sqrt{2}$ C) 9 D) $6\sqrt{3}$ E) 12

12. Tabanı düzgün altıgen olan dik prizmanın yüksekliği taban ayrıtının iki katıdır. Prizmanın hacmi
- $24\sqrt{3} \text{ cm}^3$
- ise,
- tabanının bir ayrıtı kaç cm dir?**

- A) 2 B) 3 C) 4 D) 5 E) 6

13. Bir köşeden çıkan ayrıtlarının uzunlukları farklı tam sayılar olan dikdörtgenler prizmasının hacmi
- 60 cm^3
- ise,
- farklı üç yüzünün alanları toplamı en az kaç cm^2 dir?**

- A) 46 B) 47 C) 52 D) 77 E) 84

14. Bir dikdörtgenler prizmasının a, b, c ayrıtları arasında
- $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = \frac{5}{7}$
- bağıntısı olduğuna göre,
- prizmanın hacminin alanına oranı nedir?**

- A) $\frac{7}{5}$ B) $\frac{7}{9}$ C) $\frac{6}{11}$ D) $\frac{7}{10}$ E) $\frac{10}{7}$

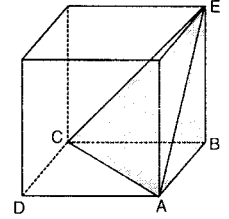
15. Taban ayrıtları x, 2x ve yüksekliği 3x br olan dikdörtgenler prizması içine bir ayrıtı
- $\frac{x}{2}$
- br olan metal küp yerleştiriliyor.
- Metal eritilince prizmanın içinde kaç br yükselir?**

- A) $\frac{x}{4}$ B) $\frac{x}{8}$ C) $\frac{x}{12}$ D) $\frac{x}{15}$ E) $\frac{x}{16}$

16. Bir eğik prizmada dik kesit alanının taban alanına oranı
- $\frac{\sqrt{3}}{2}$
- ise,
- bu prizmanın yanıl ayrıtlarını dik kesen düzlemlerle taban düzlemi arasındaki açının ölçek açısı kaç derecedir?**

- A) 30 B) 45 C) 60 D) 75 E) 90

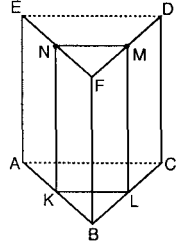
17. Şekilde küp A, C, E noktalarından geçen bir düzlemlerle kesiliyor.
- Kesilen parçanın hacmi 288 cm^3 ise küpün bir ayrıtı kaç cm dir?**



- A) 6 B) 8 C) 9 D) 12 E) 15

18. ABCDEF üçgen dik prizmasında KLMN kesit düzlemi bir dikdörtgendir.

$|FE| = 3 \cdot |NF|$ ise, **ABCDEF üçgen prizmasının KBLMNF üçgen prizmasının hacmine oranı nedir?**



- A) 3 B) 6 C) 9 D) 12 E) 27

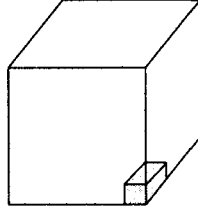
19. Yüksekliği x br, tabanın bir kenarı x br olan bir kare dik prizmanın hacmi bir ayrıtı a br olan küpün alanına eşittir.
- x ve a farklı tamsayılar olduğuna göre (x + a) toplamı en az kaç br dir?**

- A) 24 B) 30 C) 32 D) 36 E) 72

20. Bir dikdörtgenler prizmasının a, b, c boyutları 1, 3, 5 sayıları ile orantılıdır.
- Hacmi 960 cm^3 olduğuna göre alanı kaç cm^2 dir?**

- A) 600 B) 736 C) 800 D) 840 E) 900

11. Şekildeki küpün bir köşesinden bir küp kesilerek alınıyor. Verilen bu şeklin alanı 150 cm^2 ve hacmi 124 cm^3 olduğuna göre, atılan küpün bir kenarı kaç cm dir?

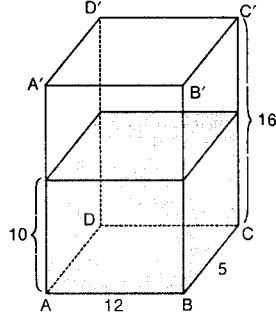


A) 1 B) 2 C) 3 D) 4 E) 5

12. Ayrit uzunlukları x , $2x$, $3x$ olan bir dikdörtgenler prizmasının hacmi 48 cm^3 ise, cisim köşegen uzunluğu kaç cm dir?

A) $\sqrt{14}$ B) $2\sqrt{14}$ C) 8
D) $4\sqrt{6}$ E) 12

13. Şekildeki ayritları 12, 5 ve 16 cm olan dik prizmada 10 cm yüksekliğinde su vardır. Bu prizma $BCC'B'$ yüzeyi üzerine oturtulursa suyun yüksekliği kaç cm olur?



A) 7 B) $\frac{15}{2}$ C) 8 D) 9 E) 10

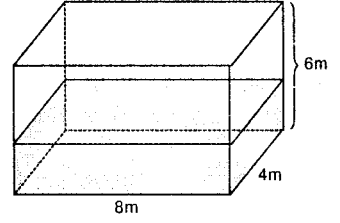
14. Taban ayrit uzunlukları farklı tamsayılar olan bir dikdörtgenler prizmasının yüksekliği 12 cm dir. Taban çevresi 24 cm olduğuna göre bu dikdörtgenler prizmasının hacmi en çok kaç cm^3 tür?

A) 244 B) 360 C) 384 D) 420 E) 432

15. Dikdörtgenler prizması şeklindeki bir su havuzunun boyutları x , y ve z dir. Bu havuzun 5 br^3 daha fazla su alabilmesi için yüksekliği olan z kaç br artırılmalıdır?

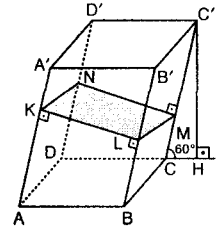
A) $\frac{1}{x \cdot y}$ B) $1 - \frac{5}{x \cdot y}$ C) $1 + \frac{5}{x \cdot y}$
D) $\frac{5}{x \cdot y}$ E) $\frac{x \cdot y}{5}$

16. Yanda boyutları verilen dikdörtgenler prizması şeklindeki bir depo yarıya kadar su ile doludur. Bu deponun içine bir ayrıtı 2 m olan küp atılıyor. Küpün yüzeyi taban düzlemine değdiğine göre su kaç cm yükselir?



A) 20 B) 25 C) 30 D) 35 E) 40

17. Şekildeki eğik prizmada $m(\angle CH) = 60^\circ$ dir. $ABCD$ taban alanının $KLMN$ dik kesit alanına oranı nedir?

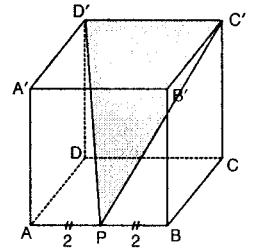


A) 2 B) $\frac{\sqrt{3}}{2}$ C) $\frac{2}{\sqrt{3}}$ D) $\frac{3}{2}$ E) $\sqrt{3}$

18. Hacimleri farklı üç küp şeklindeki kabın birincisi tamamen su ile dolu diğerleri boştur. Birincideki su ile ikinci, ikincideki su ile de üçüncü dolduruluyor. Kaplarda kalan suların hacimleri oranı $7 : 5 : 3$ ise birinci kabın hacmi üçüncü kabın hacminin kaç katıdır?

A) 2 B) 3 C) $\frac{7}{2}$ D) 4 E) 5

19. Şekildeki küpte, $IAPI = IPBI = 2 \text{ cm}$
 $\Delta A(PD'C)$ kaç cm^2 dir?



A) $8\sqrt{2}$ B) $12\sqrt{2}$ C) 14
D) 16 E) $16\sqrt{2}$

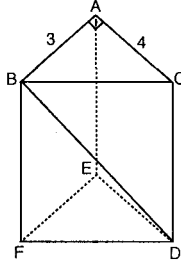
20. Ayrit uzunlukları birer tamsayı ve farklı üç yüzünün alanları 24, 32 ve 48 cm^2 olan dikdörtgenler prizmasının hacmi kaç cm^3 tür?

A) 144 B) 160 C) 192 D) 196 E) 216

PRİZMALAR

TEST 3

1. Şekilde tabanı dik üçgen olan dik prizmada
 $ABI = 3$ cm ,
 $ACI = 4$ cm ve
 prizmanın alanı 156 cm² olduğuna göre,
 $IBDI$ kaç cm dir?

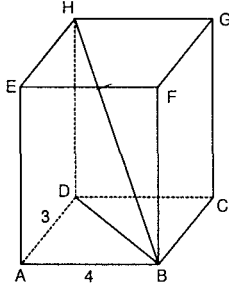


A) 8 B) 10 C) 12 D) 13 E) 15

2. Boyutları a , b , c br olan bir dikdörtgenler prizmasında cisim köşegeni 11 cm ve $a + b + c = 15$ cm olduğuna göre, **alanı kaç cm² dir?**

A) 72 B) 80 C) 96 D) 100 E) 104

3. Şekildeki dikdörtgenler prizmasında
 $m(\hat{DBH}) = 60^\circ$,
 $ABI = 4$ cm ,
 $IAD = 3$ cm olduğuna göre, **$IBHI$ kaç cm dir?**

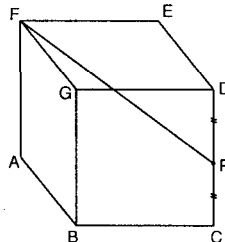


A) 8 B) 10 C) 12 D) 15 E) 20

4. Farklı üç boyutunun ölçüleri a , b , c br olan dikdörtgenler prizmasının boyutları arasında
 $\frac{a}{b} = \frac{2}{3}$, $\frac{b}{c} = \frac{3}{4}$ bağıntıları vardır. **Bu prizmanın farklı yüzlerinin alanları oranı aşağıdakilerden hangisi olabilir?**

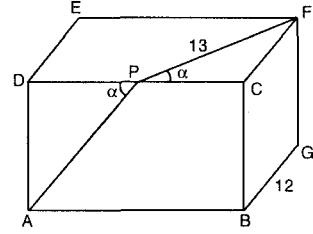
A) 3 : 4 : 6 B) 2 : 3 : 4 C) 3 : 6 : 7
 D) 3 : 4 : 8 E) 1 : 2 : 3

5. Şekildeki küpte,
 $IDPI = IPCI$,
 $IPFI = 12$ cm olduğuna göre, **hacmi kaç cm³ tür?**



A) 128 B) 256 C) 320 D) 400 E) 512

6.

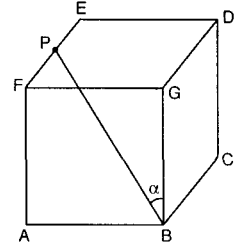


Şekildeki dikdörtgenler prizmasında,

$m(\hat{APD}) = m(\hat{CPF}) = \alpha$, $IDPI = IPCI$, $IBGI = 12$ cm ,
 $IPFI = 13$ cm olduğuna göre, **prizmanın hacmi kaç cm³ tür?**

A) 1440 B) 1560 C) 1640
 D) 1800 E) 1960

7. Şekildeki küpte,
 2 . $IFPI = IPEI$ olduğuna göre,
 $\tan(\hat{GBP})$ kaçtır?



A) $\frac{\sqrt{5}}{2}$ B) $\frac{\sqrt{5}}{3}$ C) $\frac{\sqrt{10}}{3}$ D) $\frac{5}{3}$ E) $\frac{5}{4}$

8. Boyu eninin üç katı uzunluğunda olan dikdörtgen şeklindeki bir kartonun tamamı kullanılarak 108 cm³ hacminde kare prizma şeklinde üst kapağı olmayan bir kutu yapılıyor. **Kare prizmanın taban kenarı verilen kartonun enine eşit olduğuna göre kullanılan kartonun çevresi kaç cm dir?**

A) 24 B) 36 C) 42 D) 48 E) 56

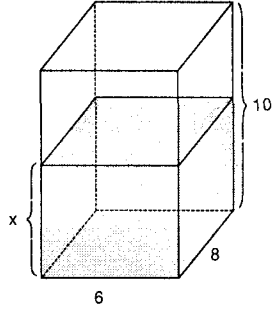
9. Bir kare dik prizmanın taban ayrıtı a br, yüksekliği b br dir. **Prizmanın alanı 60 br² olduğuna göre hacmi aşağıdakilerden hangisidir?**

A) $15a - \frac{a^3}{3}$ B) $15a - \frac{a^3}{2}$ C) $30a - \frac{a^3}{2}$
 D) $30a - \frac{a^3}{3}$ E) $15a - a^3$

10. Bir ayrıtı 10 cm olan küpün ayrıtları kaç cm artırılmalıdır ki alanı sayısal olarak hacminin yarısı olsun?

A) 1 B) 2 C) 3 D) 4 E) 6

11. Ayrıtları 6, 8 ve 10 br olan dikdörtgenler prizmasının içinde x br yüksekliğinde su bulunmaktadır. İçerisine 336 br³ su daha dökülürse tamamen doluyor.



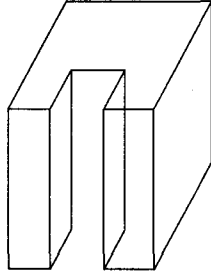
Buna göre x kaç br dir?

- A) 2 B) 3 C) 4 D) $\frac{9}{2}$ E) 6

12. Bir dikdörtgenler prizmasının boyutları 1, 3, 5 sayıları ile orantılıdır. Bu prizmanın hacmi 405 cm³ ise yüksekliği en çok kaç cm olabilir?

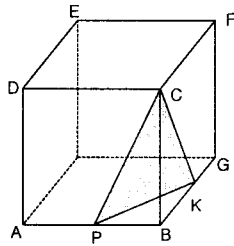
- A) 5 B) 10 C) 12 D) 15 E) 20

13. Bir kenarı 6 cm olan şekildedeki küpten tabanı kare olan dik prizma oyulup çıkarılıyor. Geriye kalan cismin alanı 232 cm² ise, hacmi aşağıdakilerden hangisidir?



- A) 180 B) 184 C) 192 D) 196 E) 208

14. Şekildeki küpte, IAPI = IPBI, IBKI = IKGI küpün hacmi 512 cm³ ise, $\Delta A(CPK)$ kaç cm² dir?

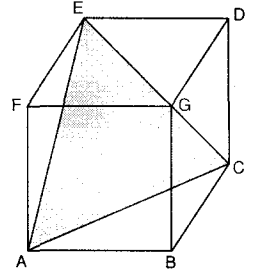


- A) $18\sqrt{2}$ B) 24 C) $24\sqrt{2}$ D) 48 E) $36\sqrt{2}$

15. Alanı x br² olan bir küpün hacmi ikinci bir küpün hacminin y^3 katı ise, İkinci küpün alanı aşağıdakilerden hangisidir?

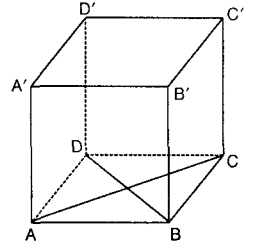
- A) yx^2 B) $\sqrt[3]{y^2} \cdot x$ C) $y\sqrt[3]{x}$ D) $\frac{x}{y^2}$ E) $\frac{y}{x^2}$

16. Şekildeki küpte, $\Delta A(ACE) = 16\sqrt{3}$ cm² ise, küpün cisim köşegeni kaç cm dir?



- A) 4 B) $4\sqrt{2}$ C) $4\sqrt{3}$ D) $6\sqrt{2}$ E) $4\sqrt{6}$

17. Tabanı eşkenar dörtgen ve yan yüzleri kare olan dik prizmada IACI = 8 cm, IBDI = 6 cm dir. Buna göre dik prizmanın hacmi kaç cm³ tür?

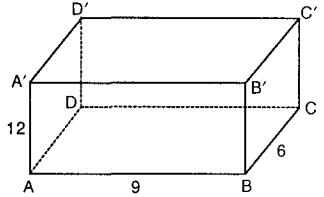


- A) 48 B) 64 C) 96 D) 120 E) 125

18. Kenar uzunlukları 6, 8 ve $10\sqrt{2}$ cm olan dikdörtgenler prizmasının cisim köşegeni bir ayrıtı a cm olan küpün cisim köşegen uzunluğuna eşittir. Buna göre a kaç cm dir?

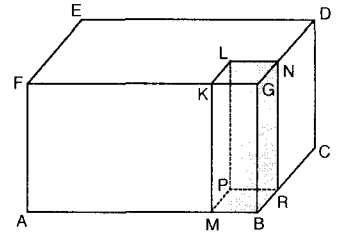
- A) 8 B) 10 C) $10\sqrt{3}$ D) 18 E) 20

19. Tabanı paralel-kenar olan dik prizmada, $m(\hat{DAB}) = 30^\circ$, IAA'I = 12 cm, IABI = 9 cm, IADI = 6 cm ise, prizmanın hacmi kaç cm³ tür?



- A) 162 B) 196 C) 216 D) 288 E) 324

20. Taban ayrıtları 8 cm ve 12 cm olan dikdörtgenler prizmasından şekildedeki gibi tabanı kare olan aynı dik prizmalardan en az kaç tane elde edilebilir?



- A) 4 B) 6 C) 8 D) 10 E) 12

PRİZMALAR

TEST 4

1. Hacmi 125 cm^3 olan küpün ayrıtları kaç cm uzunluğundaki bir telden yapılmıştır?

A) 48 B) 50 C) 60 D) 64 E) 80

2. Kenarları 20 cm, 30 cm, 45 cm olan bir dikdörtgenler prizmasının hacmine eşit hacimde olan küpün bir yüzünün alanı kaç cm^2 dir?

A) 400 B) 576 C) 625 D) 900 E) 1600

3. Bir küpün alanı a br türünden 50 br² aynı küpün alanı b br türünden 72 br² olduğuna göre, a 'nın b 'ye oranı kaçtır?

A) $\frac{1}{3}$ B) $\frac{2}{5}$ C) $\frac{3}{5}$ D) $\frac{5}{6}$ E) $\frac{6}{5}$

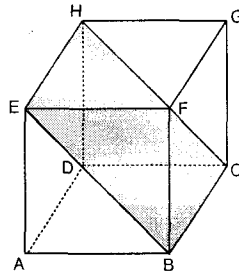
4. Boyutları a , b ve c olan dikdörtgenler prizmasında $a = 2b$, $3b = 2c$ dir. Hacmi 648 cm^3 ise prizmanın en küçük yüzünün alanı kaç cm^2 dir?

A) 48 B) 54 C) 60 D) 72 E) 96

5. Bir dikdörtgenler prizmasının yüzeylerinden birinin alanı 160 cm^2 ve hacmi 2400 cm^3 tür. Bir köşeden çıkan farklı ayrıt uzunlukları toplamı 43 cm olduğuna göre, tüm alanı kaç cm^2 dir?

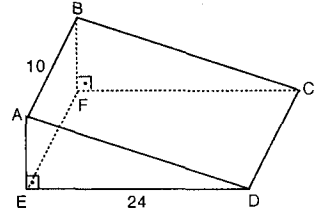
A) 900 B) 960 C) 1040
D) 1160 E) 1200

6. Şekildeki küpte ABCD düzleminin ağırlık merkezinin BCHE düzlemine uzaklığı 2 cm ise, küpün alanı kaç cm^2 dir?



A) 180 B) 192 C) 208 D) 216 E) 224

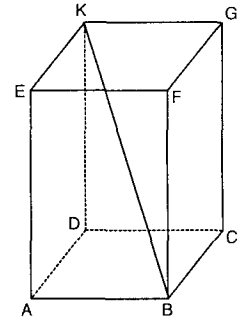
7. Şekilde görülen ABCD dikdörtgeni biçimindeki meyilli bir arsa, toprak kazılarak yatay bir CDEF dikdörtgeni biçimine getiriliyor.



$|ED| = 24 \text{ m}$, $|AB| = 10 \text{ m}$ ve arsa 10 m^2 küçüldüğüne göre, bu işlem için kaç m^3 toprak kazılmıştır?

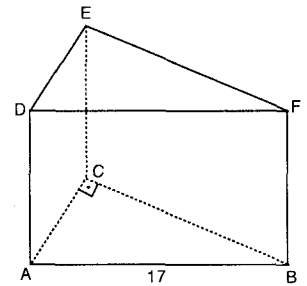
A) 600 B) 640 C) 720
D) 800 E) 840

8. Şekildeki dik prizmanın tabanı karedir. $A(ABCD) = 2 \cdot A(BCGF)$ ve prizmanın hacmi 500 cm^3 olduğuna göre, $|BK|$ kaç cm dir?



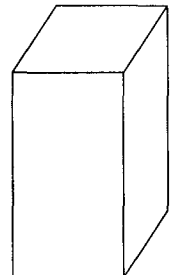
A) 15 B) 18
C) 20 D) 25
E) 30

9. Şekildeki üçgen dik prizmada $|AB| = 17 \text{ cm}$ ACED karesinin alanı 64 cm^2 ise, prizmanın hacmi kaç cm^3 tür?



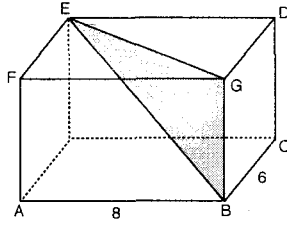
A) 360 B) 400 C) 420
D) 480 E) 540

10. Eşit üç küp üst üste konularak şekildeki kare prizma elde ediliyor. Buna göre prizmanın alanı bir küpün alanının kaç katıdır?



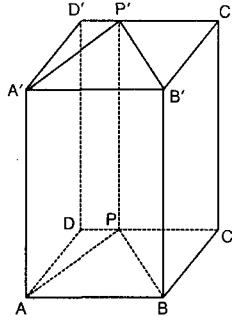
A) $\frac{7}{3}$ B) $\frac{7}{2}$ C) 1 D) $\frac{9}{2}$ E) $\frac{11}{2}$

11. Şekildeki dikdörtgenler prizmasında,
 $IAI = 8$ cm ,
 $IBI = 6$ cm ,
 $A(\triangle BEG) = 50$ cm²
 ise, **dikdörtgenler prizmasının alanı kaç cm² dir?**



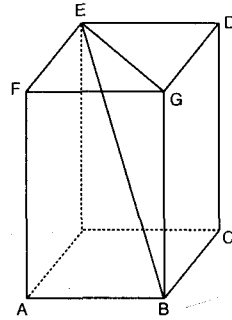
A) 240 B) 256 C) 280 D) 324 E) 376

12. Şekilde ABCDA'B'C'D' dikdörtgenler prizması, PABP'A'B' eşkenar üçgen dik prizmadır. IAA' = 10 cm ve eşkenar üçgen prizmanın hacmi $90\sqrt{3}$ cm³ olduğuna göre, **IAI kaç cm dir?**



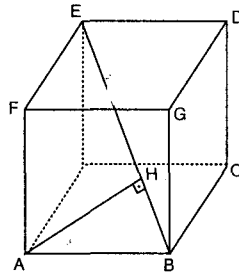
A) 3 B) $3\sqrt{3}$ C) 6 D) 9 E) $6\sqrt{3}$

13. Şekildeki kare dik prizmada,
 $m(\angle BEG) = 60^\circ$ ve
 $A(DEF G) = 24$ cm² ise,
prizmanın hacmi kaç cm³ tür?



A) 144 B) 160
 C) 180 D) 216
 E) 288

14. Şekildeki küpte,
 $IAI = 1$ br ,
 $[AH] \perp [BE]$ ise,
IAHI kaç br dir?

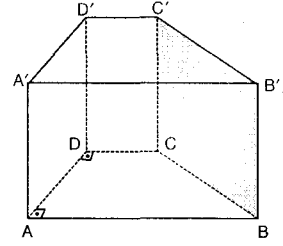


A) $\frac{1}{\sqrt{3}}$ B) $\frac{\sqrt{6}}{3}$ C) $\frac{\sqrt{6}}{2}$ D) $\frac{2}{3}$ E) $\frac{\sqrt{2}}{2}$

15. Bir küpün kenarları 2 kat artırıldığında elde edilen küpün cisim köşegeni $12\sqrt{3}$ cm olduğuna göre, **ilk küpün alanı kaç cm² dir?**

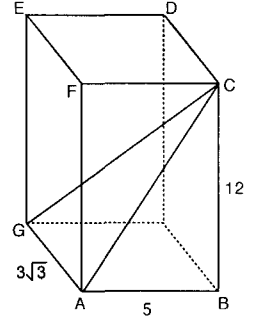
A) 64 B) 96 C) 108 D) 144 E) 216

16. Şekildeki tabanı dik yamuk olan dik prizmada,
 $IAI = IDCI = 3$ cm,
 $IAI = 7$ cm ve
 $A(BCC'B') = 30$ cm² olduğuna göre,
IAA' kaç cm dir?



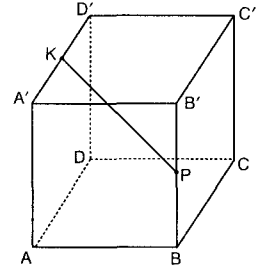
A) 4 B) 5 C) 6 D) 7 E) 8

17. Şekildeki dikdörtgenler prizmasında,
 $IAI = 5$ cm ,
 $IBI = 12$ cm ,
 $IAI = 3\sqrt{3}$ cm ise,
 $\cos(\angle ACG)$ kaçtır?



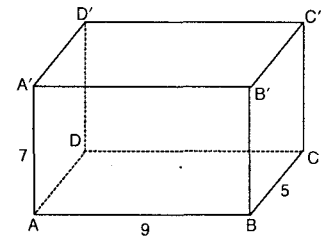
A) $\frac{13}{14}$ B) $\frac{13}{15}$ C) $\frac{\sqrt{6}}{7}$ D) $\frac{\sqrt{6}}{5}$ E) $\frac{13}{18}$

18. Şekildeki küpte,
 $IBPI = IA'KI = 1$ cm ,
 $IAI = 3$ cm ise,
IPKI kaç cm dir?



A) $\sqrt{6}$ B) $2\sqrt{2}$ C) $2\sqrt{3}$ D) $\sqrt{14}$ E) 4

19. Şekildeki dikdörtgenler prizmasında,
 $IAI = 9$ cm ,
 $IBI = 5$ cm ,
 $IAA' = 7$ cm



Yüzey üzerinden gidilmek üzere A'dan C' noktasına en az kaç cm yol alınarak gidilir?

A) 10 B) 12 C) 14 D) 15 E) 20

20. Bir kare dik prizmanın farklı iki ayrıtının uzunlukları toplamı 12 cm, alanı 190 cm² ise, **hacmi kaç cm³ tür?**

A) 125 B) 150 C) 160 D) 168 E) 175

PRİZMALAR

TEST 5

1. Farklı üç yüzeyinin alanları sırasıyla 35 br^2 , 21 br^2 ve 15 br^2 olan bir dikdörtgenler prizmasının hacmi kaç br^3 tür?

A) 100 B) 105 C) 115 D) 135 E) 145

2. Eş iki dikdörtgenler prizması, aynı yüzeyleri üst üste getirilerek bir küp oluşturuluyor. Kübün cisim köşegeninin, prizmalardan birinin cisim köşegenine oranı kaçtır?

A) $\frac{2\sqrt{3}}{3}$ B) $\sqrt{3}$ C) $\frac{4\sqrt{3}}{3}$

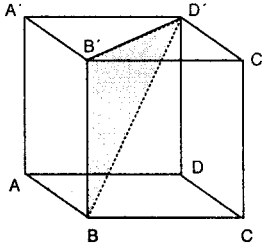
D) $\frac{5\sqrt{3}}{3}$ E) $2\sqrt{3}$

3. İki küpün hacimleri oranı $\frac{1}{4}$ ise alanları oranı nedir?

A) $\frac{1}{2\sqrt{2}}$ B) $\frac{1}{2\sqrt[3]{2}}$ C) $\frac{1}{\sqrt[3]{2}}$

D) $\frac{1}{\sqrt{2}}$ E) 1

4. Şekildeki küpün bir kenarı 4 cm ise $BB'D'$ üçgeninin BD' kenarına ait yüksekliği kaç cm'dir?



A) $\frac{4\sqrt{3}}{2}$ B) $\frac{4\sqrt{2}}{3}$ C) $\frac{4\sqrt{6}}{3}$

D) $\frac{4}{3}$ E) $\sqrt{6}$

5. Yanal alanının, taban alanına oranı 2 olan r br yarıçaplı silindirin hacminin, tüm alanına oranı nedir?

A) $\frac{r}{4}$ B) $\frac{r}{2}$ C) r D) $2r$ E) $3r$

6. Ayrıtları 2, 3 ve 4 ile orantılı olan bir dikdörtgenler prizmasının cisim köşegeni $2\sqrt{29}$ br ise, alanı kaç br^2 dir?

A) 160 B) 172 C) 184 D) 196 E) 208

7. Bir kare prizmanın yüksekliği taban ayrıtının 3 katına eşittir. Alanı ve hacmi sayıca birbirine eşit ise, prizmanın hacmi kaç br^3 tür?

A) $\frac{14^3}{3}$ B) $\frac{14^3}{9}$ C) $\frac{14^2}{3}$ D) $\frac{14^2}{9}$ E) $\frac{14}{9}$

8. Taban çevresi, yüksekliğine eşit olan bir dik silindirin yanal alanı 36 br^2 ise hacmi kaç br^3 tür?

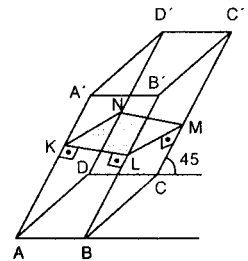
A) $\frac{24}{\pi}$ B) $\frac{32}{\pi}$ C) $\frac{36}{\pi}$ D) $\frac{48}{\pi}$ E) $\frac{54}{\pi}$

9. Tabanı düzgün altıgen olan bir dik prizmanın, bir taban kenarı 2 br ve yüksekliği 6 br ise hacmi kaç br^3 tür?

A) $6\sqrt{3}$ B) $12\sqrt{3}$ C) $18\sqrt{3}$

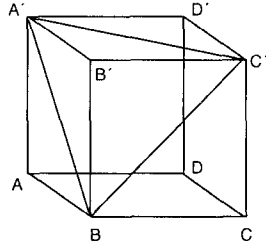
D) $24\sqrt{3}$ E) $36\sqrt{3}$

10. Şekildeki, tabanla 45° lik açı yapan, eğik prizmanın, KLMN dik kesitinin alanı $5\sqrt{2} \text{ br}^2$ ise $A(ABCD)$ kaç br^2 dir?



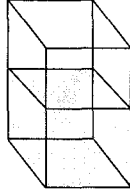
A) 7 B) 8 C) 9 D) 10 E) 11

11. Şekildeki küpün bir kenarı 2 br ise $\Delta A(A'BC')$ kaç br^2 'dir?



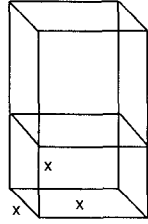
- A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $4\sqrt{3}$ D) $5\sqrt{3}$ E) $6\sqrt{3}$

12. Şekildeki kare dik prizmanın tabanının bir kenar uzunluğu 6 br ve yüksekliği 4 br'dir. Bu prizmanın içerisinde bulunan suyun hacmi $72 br^3$ ise prizmanın içine bir kenarı 5 br olan bir demir küp atılırsa kaç br^3 su taşar?



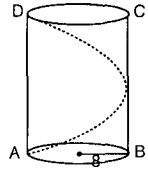
- A) 32 B) 40 C) 41 D) 50 E) 53

13. Tabanı x br olan bir kare prizmadan, tüm ayrıtları x br olan bir küp çıkarılıyor. Oluşan yeni cismin alanı, ilk durumdaki prizmanın alanının $\frac{5}{7}$ katı ise oluşan cismin, çıkarılan küpün hacmine oranı nedir?



- A) 1 B) 2 C) 3 D) 4 E) 5

14. Şekilde, taban yarıçapı 8 br ve yüksekliği 12π br olan bir dik silindir verilmiştir. Şekildeki yol takip edilirse, A ile D arası en az kaç π br'dir?

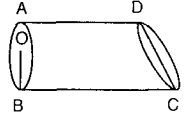


- A) 5 B) 10 C) 15 D) 20 E) 25

15. Bir küpün her ayrıtı 2 katına çıkarılırsa hacmi kaç katına çıkar?

- A) 4 B) 6 C) 8 D) 12 E) 16

16. Şekildeki kesik dik silindirin, taban yarıçapı 2 br, $|BC|=12$ br ve $|AD|=9$ br ise cismin hacmi kaç br^3 'tür?



- A) 32π B) 34π C) 38π D) 40π E) 42π

17. Bir küp içerisine en büyük hacimli bir silindir yerleştiriliyor. Silindirin hacminin, küpün hacmine oranı nedir?

- A) $\frac{\pi}{8}$ B) $\frac{\pi}{6}$ C) $\frac{\pi}{4}$ D) $\frac{\pi}{2}$ E) π

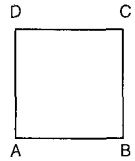
18. Bir silindir içerisine, en büyük hacimli bir kare prizma yerleştiriliyor. Silindirin hacminin, kare prizmanın hacmine oranı nedir?

- A) $\frac{\pi}{8}$ B) $\frac{\pi}{6}$ C) $\frac{\pi}{4}$ D) $\frac{\pi}{2}$ E) π

19. Farklı ayrıtları x, y, z olan bir dikdörtgenler prizmasının hacminin sayısal değeri, alanının sayısal değerinin 2 katıdır. Buna göre $\frac{1}{x} + \frac{1}{y} + \frac{1}{z}$ toplamı kaçtır?

- A) $\frac{1}{8}$ B) $\frac{1}{6}$ C) $\frac{1}{4}$ D) $\frac{1}{2}$ E) 1

20. ABCD kare, $|AB|=2$ br ise karenin [BC] etrafında 90° döndürülmesiyle oluşacak cismin hacmi kaç br^3 'tür?



- A) π B) 2π C) 3π D) 4π E) 5π

PİRAMİT-KÜRE

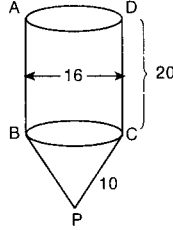
TEST

I

1. Ekseninden geçen dik kesiti, eşkenar üçgen olan bir dönel (dik) koni vardır. Kesitin alanı $4\sqrt{3}$ br² olduğuna göre, **koninin hacmi kaç br³ tür?**

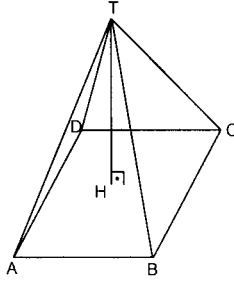
- A) $\frac{2\sqrt{3}}{3}\pi$ B) 6π C) $\frac{8\sqrt{3}}{3}\pi$
D) $6\sqrt{2}\pi$ E) $8\sqrt{2}\pi$

2. Koni üzerine yerleştirilen silindir kabın yüksekliği 20 cm, silindirin çapı 16 cm'dir. Koninin ana doğrusu 10 cm ise **bu cismin hacmi kaç π cm³ tür?**



- A) 1456 B) 1428 C) 1410
D) 1408 E) 1400

3. Şekildeki düzgün kare piramidin taban alanı 36 cm² ve bütün alanı 96 cm² olduğuna göre **hacmi kaç cm³ tür?**

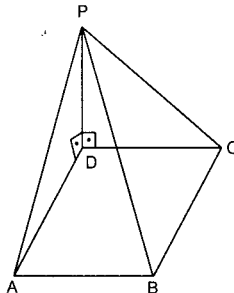


- A) 30 B) 34 C) 40 D) 42 E) 48

4. Düzgün bir kare piramidin yüksekliği 12 cm, yan yüzünün yüksekliği 13 cm'dir. **Piramidin hacmi nedir?**

- A) 150 B) 200 C) 280 D) 340 E) 400

5. Şekildeki piramitte; $[PD] \perp [DC]$ ve $[PD] \perp [DA]$ dir. ABCD karesinin bir kenarı 6 br ve $\angle IPD = 8$ br'dir. **Bu piramidin hacmi kaç br³ tür?**

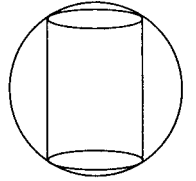


- A) 56 B) 64 C) 72 D) 96 E) 144

6. Bir düzgün dört yüzlüde komşu iki yüz arasındaki açının cosinüsü aşağıdakilerden hangisidir?

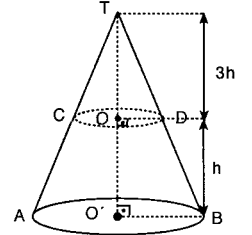
- A) $\frac{2\sqrt{2}}{3}$ B) $\frac{1}{2}$ C) $\frac{\sqrt{2}}{2}$ D) $\frac{1}{3}$ E) $\frac{2\sqrt{3}}{3}$

7. Şekildeki küre içine yerleştirilen en büyük silindirin yüksekliği 8 cm ve hacmi 72 π cm³ tür. **Kürenin yarıçapı kaç cm'dir?**



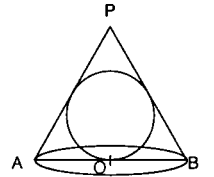
- A) 6 B) 5 C) 4 D) 3 E) $\frac{5}{2}$

8. Yandaki dik koni tabana paralel bir düzlemle kesilmiştir. Küçük koninin yüksekliği kesik koninin yüksekliğinin 3 katı olduğuna göre, **küçük koninin hacminin kesik koninin hacmine oranı nedir?**



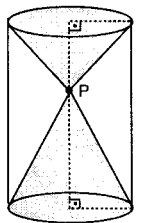
- A) $\frac{7}{17}$ B) $\frac{17}{27}$ C) $\frac{27}{37}$ D) $\frac{17}{37}$ E) $\frac{37}{47}$

9. Şekilde taban yarıçapı 12 cm, yüksekliği 16 cm olan dönel koninin içine teğet olacak biçimde yerleştirilen **kürenin hacmi kaç π cm³ tür?**



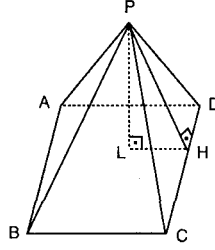
- A) 108 B) 144 C) 196 D) 216 E) 288

10. Şekilde taban yarıçapı 5 cm olan dik silindirin yüksekliği 9 cm'dir. **Tepe noktaları P olan taralı iki koninin hacimleri toplamı kaç π cm³ tür?**



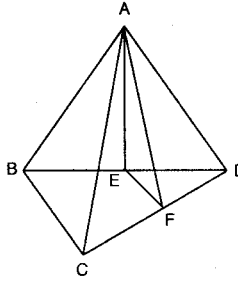
- A) 60 B) 65 C) 75 D) 125 E) 225

11. Şekildeki (PABCD) düzgün kare piramitte,
 $IPDI = IABI = 6$ cm,
 $[PH] \perp [CD]$ ve $[PL] \perp [LH]$
 ise $\tan(\angle LPH)$ değeri ne-
 dir?



- A) $\frac{\sqrt{2}}{2}$ B) $\frac{\sqrt{3}}{2}$ C) $\frac{\sqrt{3}}{3}$ D) $\frac{1}{2}$ E) $\frac{3}{5}$

12. Şekilde ABCD düzgün dörtyüzlüdür.
 $IBEI = IDEI$,
 $ICFI = IDFI$ ise
 $\cot(\angle EAF)$ kaçtır?

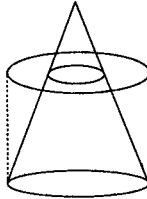


- A) 1 B) $\frac{1}{\sqrt{3}}$ C) $\frac{5\sqrt{11}}{11}$
 D) $\frac{\sqrt{3}}{12}$ E) $\frac{11\sqrt{3}}{12}$

13. Küpün köşelerinden geçen küre ile iç teğet küresinin alanları oranı nedir?

- A) $\frac{1}{2}$ B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

14. Şekildeki dik silindirin hacmi aynı tabanlı dik döne koninin hacminin 2 katıdır. Silindirin dışında kalan döne koninin hacminin silindirin hacmine oranı kaçtır?

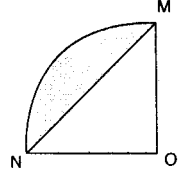


- A) $\frac{1}{18}$ B) $\frac{1}{24}$ C) $\frac{1}{36}$ D) $\frac{1}{42}$ E) $\frac{1}{54}$

15. Bir düzgün kare piramitin taban ayrıtı 8 cm, yanal alanı $48\sqrt{5}$ cm² ise yüksekliği kaç cm'dir?

- A) $3\sqrt{5}$ B) $2\sqrt{7}$ C) $\sqrt{29}$ D) $\sqrt{30}$ E) $2\sqrt{15}$

16. O merkezli, 6 cm yarıçaplı dörte bir daire verilmiştir. Taralı bölge [ON] eksenini etrafında 360° döndürülüyor. Elde edilen cismin hacmi kaç π cm³ tür?



- A) 36 B) 72 C) 86 D) 102 E) 108

17. Bir eğik koninin en büyük ana doğrusunun taban düzlemi ile yaptığı açı 30°, en küçük ana doğrusunun taban düzlemi ile yaptığı açı 60° dir. Eğik koninin yüksekliği $2\sqrt{3}$ br olduğuna göre hacmi kaç br³ tür?

- A) $\frac{16\sqrt{3}\pi}{3}$ B) $\frac{27\sqrt{3}\pi}{3}$ C) $\frac{8\sqrt{3}\pi}{3}$
 D) $\frac{64\sqrt{3}\pi}{3}$ E) $\frac{32\sqrt{3}}{3}$

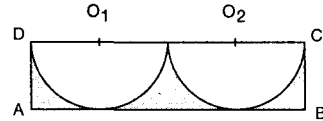
18. Bir kenarı 6 cm olan bir küpün içine en büyük hacimde küre yerleştiriliyor. Küpün bir köşesinin küre yüzeyine en kısa uzaklığı kaç cm'dir?

- A) $3\sqrt{3}$ B) $3\sqrt{3}-1$ C) $3\sqrt{3}-2$
 D) $3\sqrt{3}-3$ E) $3\sqrt{3}-4$

19. Donan bir nehrin üzerine büyük kısmı suyun içinde kalacak biçimde bir küresel top konuyor ve nehir donunca top çıkarılıyor. Kalan düzgün çukurun derinliği 49 cm, yüzeydeki çemberin yarıçapı 7 cm ise topun yarıçapı kaç cm'dir?

- A) 12 B) 18 C) 20 D) 25 E) 27

- 20.



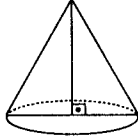
Yarıçapı 3 cm olan şekildeki iki eş yarım çember birbirine ve ABCD dikdörtgenine teğettir. Dikdörtgen [DC] etrafında 360° döndürülürse taralı bölgenin oluşturacağı cismin hacmi kaç cm³ olur?

- A) 36π B) 62π C) 64π D) 70π E) 72π

PİRAMİT-KÜRE

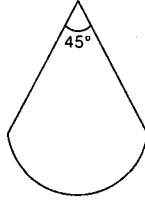
TEST 2

1. Şekildeki dik koninin taban yarıçapı 9 cm, hacmi 324π olduğuna göre bu koninin yanal alanı nedir?



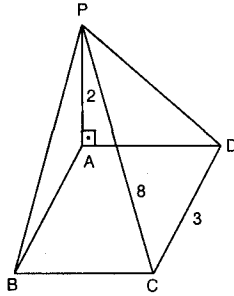
- A) 115π B) 120π C) 125π
D) 135π E) 150π

2. Şekildeki daire kesmesi bir dik koni haline getiriliyor. Dik koninin yüksekliği $6\sqrt{7}$ br ise yanal yüzey alanı kaç br² dir?



- A) 12π B) 24π C) 32π
D) 48π E) 72π

3. Şekildeki piramitte ABCD bir dikdörtgen, [PA], ABCD düzlemine diktir. IPAİ = 2 cm, IPCİ = 8 cm, IDCİ = 3 cm ise piramitin hacmi kaç cm³ tür?

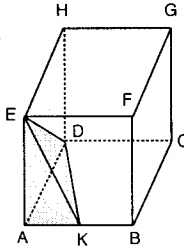


- A) $\sqrt{51}$ B) $2\sqrt{51}$ C) $5\sqrt{15}$
D) $30\sqrt{3}$ E) $4\sqrt{51}$

4. Yüksekliği 20 cm olan bir düzgün piramit tepeden 12 cm uzaklıkta bir düzlemle kesiliyor. Kesit alanı 30 cm^2 ise kesik piramitin hacmi nedir?

- A) $\frac{3920}{9}$ B) $\frac{3682}{9}$ C) $\frac{3412}{9}$
D) $\frac{3018}{9}$ E) $\frac{3017}{9}$

5. Şekildeki küpte IABİ = 3IAKİ dir. Tepe noktası E, tabanı AKD olan piramit verilmiştir. Küpün hacminin piramitin hacmine oranı nedir?

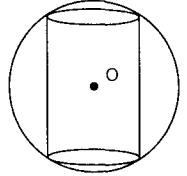


- A) 12 B) 14 C) 15 D) 18 E) 21

6. Bir ayrıtının uzunluğu $3\sqrt{2}$ olan düzgün dörtyüzlünün hacmi kaç cm³ tür?

- A) 9 B) $18\sqrt{2}$ C) 24
D) $24\sqrt{2}$ E) 36

7. Şekilde O merkezli küre içine çizilen dönel silindirin taban yarıçapı 5 cm ve yanal alanı $125\pi\text{ cm}^2$ dir. Kürenin alanı kaç $\pi\text{ cm}^2$ dir?



- A) $\frac{864}{23}$ B) $\frac{918}{2}$ C) $\frac{1025}{4}$
D) $\frac{1126}{3}$ E) $\frac{1216}{5}$

8. Taban yarıçapı 5 cm, ana doğrusunun uzunluğu 13 cm olan dönel koninin içine çizilebilen en büyük hacimli kürenin yarıçapı nedir?

- A) $\frac{5}{3}$ B) 2 C) $\frac{7}{3}$ D) $\frac{8}{3}$ E) $\frac{10}{3}$

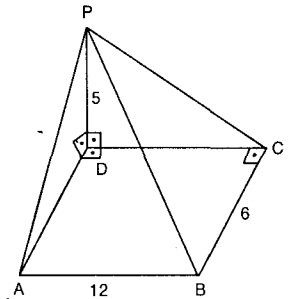
9. Bir silindir içine yerleştirilen dik koninin yan yüz alanının, silindirin yan yüz alanına oranı $\frac{\sqrt{17}}{8}$ ise koninin yüksekliği, yarıçapının kaç katıdır?

- A) 1 B) 2 C) 3 D) 4 E) 5

10. Yandaki şekilde tabanı dikdörtgen olan piramitin, D köşesinden çıkan üç ayrıtı birbirine diktir.

IABİ = 12 cm,
IBCİ = 6 cm ve
IDPİ = 5 cm ise

PDA yüzünün alanı, PBC yüzünün alanından kaç cm² daha azdır?



- A) 10 B) 12 C) 18 D) 24 E) 30

11. Şekildeki piramitte

$[DE] \parallel [AB]$,
 $[FE] \parallel [BC]$ ve
 $[DF] \parallel [AC]$ 'dir.

4. $IPFI = IPBI$ olup

$\Delta A(ABC) = 96 \text{ cm}^2$ dir.

ΔDEF tabanının alanı kaç cm^2 dir?

A) 2 B) 4 C) 5 D) 6 E) 8

12. ABC üçgeninin kenarlarının orta noktaları D, E, F dir. Şekilde (P, DEF) piramidi ile taban tabana çakıştırılmış (T, DEF) piramidinin yükseklikleri aynıdır. (P, ABC) piramidinin hacminin taban tabana çakıştırılmış piramidlerin hacimleri oranı nedir?

A) 4 B) 3 C) $\frac{3}{2}$ D) 2 E) 1

13. Yarıçapı $r = 10 \text{ cm}$ olan kürenin merkezinden 6 cm uzaklıktaki kesitini taban kabul eden ve küre içinde kalan en büyük silindirin hacmi kaç cm^3 tür?

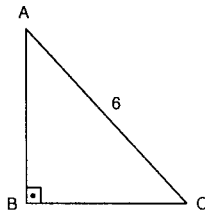
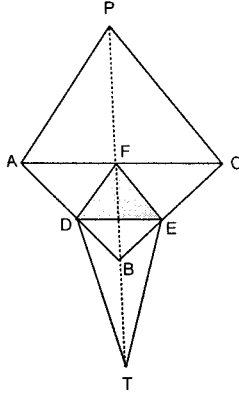
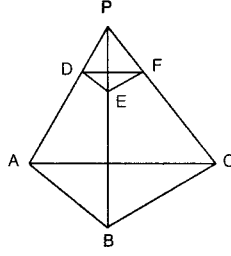
A) 560π B) 610π C) 628π
D) 712π E) 768π

14. ABC ikizkenar dik üçgendir. $IACI = 6 \text{ br}$ 'dir. ABC üçgeni [AC] hipotenüsü etrafında 360° döndürülürse oluşan dönel cismin hacmi ne olur?

A) 9π B) 10π C) 12π D) 15π E) 18π

15. Bir piramit tabana paralel bir düzlemle kesiliyor. Taban alanlarının oranı $\frac{1}{9}$ ise küçük piramidin yüksekliğinin büyük piramidin yüksekliğine oranı nedir?

A) $\frac{1}{3}$ B) $\frac{1}{2}$ C) $\frac{\sqrt{2}}{2}$ D) $\frac{\sqrt{3}}{3}$ E) $\frac{1}{4}$



16. Şekilde $IACI = 30 \text{ br}$, $IBC I = 18 \text{ br}$ 'dir. ΔADC 'nin [BC] kenarı etrafında 360° döndürülmesiyle oluşan cismin hacmi kaç $\pi \text{ br}^3$ tür?

A) 3120 B) 2970 C) 2810
D) 2620 E) 2570

17. Şekildeki dik yamuğun üst tabanı etrafında 360° döndürülmesiyle elde edilen cismin hacmi V_1 , alt tabanı etrafında 360° döndürülmesiyle elde edilen cismin hacmi V_2 ise $\frac{V_2}{V_1}$ oranı kaçtır?

A) $\frac{10}{11}$ B) $\frac{13}{14}$ C) $\frac{10}{13}$ D) $\frac{13}{15}$ E) $\frac{11}{12}$

18. Şekildeki dik konide tabanlar birbirine paraleldir. Taban alanları S_1, S_2, S_3 arasında; $S_3 - S_2 = 63 S_1$ bağıntısı vardır. $IABI = 1 \text{ br}$, $IBDI = 8 \text{ br}$ ise $IDFI$ kaç br'dir?

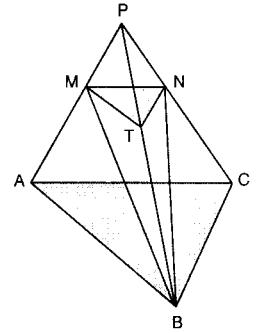
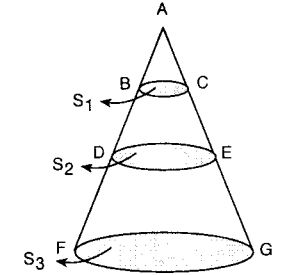
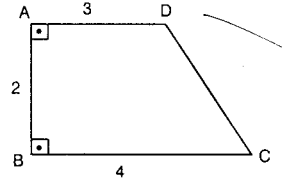
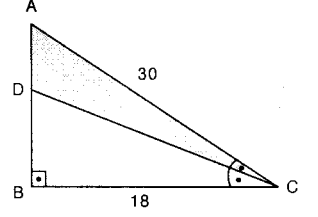
A) 1 B) 2 C) 3 D) 4 E) 6

19. $IPAI = 3IPMI$, $IPCI = 3IPNI$ ve $ITBI = 2IPTI$ dir. (P, ABC) piramidinin hacmi, (B, TMN) piramidinin hacminin kaç katıdır?

A) 27 B) $\frac{27}{2}$ C) 9 D) $\frac{27}{4}$ E) $\frac{27}{5}$

20. O merkezli, 6 br yarıçaplı küre ile aynı merkezli, 2 br yarıçaplı küreler arasında kalan kısma bütün kürelerin merkezleri de aynı düzlem içinde kalan ve her iki küreye de teğet özdeş küreler yerleştirilmiştir. Bu durumda boş kalan kısmın hacmi kaç br^3 tür?

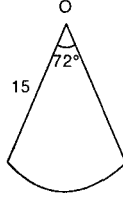
A) $\frac{340\pi}{3}$ B) $\frac{440\pi}{3}$ C) $\frac{518\pi}{3}$
D) $\frac{640\pi}{3}$ E) $\frac{712\pi}{3}$



PİRAMİT-KÜRE

TEST 3

1. Şekilde yarıçapı 15 cm olan 72° lik bir daire kesmesi kıvrılarak tepe noktası O olan bir dönel koni elde ediliyor. **Elde edilen koninin hacmi kaç π cm³dür?**

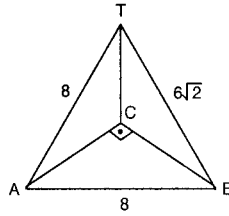


- A) $18\sqrt{6}$ B) $20\sqrt{3}$ C) $18\sqrt{6}$
D) $20\sqrt{6}$ E) $20\sqrt{2}$

2. Koni şekildaki bir kabın yüksekliğinin üçte birine kadar su vardır. **Kabın tamamen dolması için koninin hacminin kaçta kaçı kadar suya ihtiyaç vardır?**

- A) $\frac{3}{5}$ B) $\frac{8}{9}$ C) $\frac{12}{17}$ D) $\frac{8}{27}$ E) $\frac{9}{22}$

3. (T,ABC) piramidinde TC, ABC düzlemine diktir. $[AC] \perp [BC]$, $|TA| = |AB| = 8$ br, $|TB| = 6\sqrt{2}$ br ise **piramidin hacmi kaç br³ tür?**

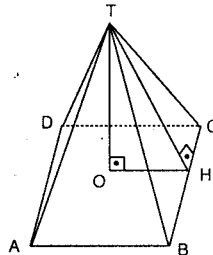


- A) $6\sqrt{7}$ B) $3\sqrt{14}$ C) $6\sqrt{14}$
D) $12\sqrt{7}$ E) $12\sqrt{14}$

4. Tabanlarının alanları 9 ve 4 br^2 , yüksekliği 6 br olan dik kesik piramidin **hacmi kaç br³ tür?**

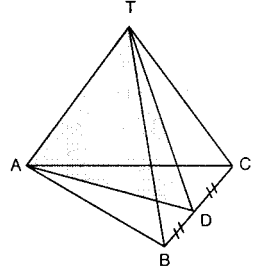
- A) 38 B) 42 C) 56 D) 66 E) 76

5. Şekildaki düzgün piramitte ABCD kare, $[TH] \perp [BC]$, $[TO] \perp [OH]$, $|TH| = 10\sqrt{3}$ br ve $m(\angle OTH) = 30^\circ$ ise **piramidin hacmi kaç br³dür?**



- A) 750 B) 1000 C) 1250 D) 1500 E) 2000

6. Şekildaki düzgün dörtyüzlünün alanı $36\sqrt{3}\text{ br}^2$ dir. D noktası, $[BC]$ nin orta noktasıdır. Buna göre **$\triangle ADT$ nin alanı kaç br² dir?**

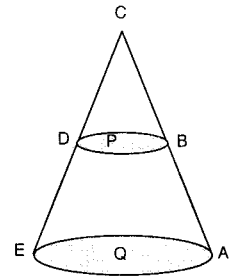


- A) $3\sqrt{2}$ B) $5\sqrt{2}$ C) $6\sqrt{2}$
D) $8\sqrt{2}$ E) $9\sqrt{2}$

7. Yarıçapı 25 cm olan bir küre merkezinden 7 cm uzaklıkta bir düzlemle kesiliyor. **Meydana gelen kesitin alanı kaç π cm² dir?**

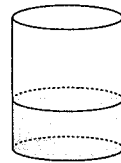
- A) 484 B) 529 C) 576 D) 589 E) 620

8. Şekildaki dik konide P ve Q düzlemleri paraleldir. Taban alanı kesit alanının 16 katı ve $|DE| = 6$ cm ise **ICDİ kaç cm'dir?**

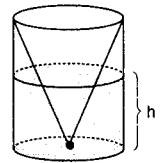


- A) 1 B) $\frac{3}{2}$ C) 2 D) $\frac{5}{2}$ E) 3

9. Şekil I'de taban yarıçapı 4 br, yüksekliği 8 br olan bardak, 3 br yüksekliğine kadar su ile doludur. Bu bardağa Şekil II'deki gibi eş tabanlı bir koni batırılıyor. **Son durumda suyun bardak içindeki yüksekliği h br ise $192h - h^3$ kaç olur?**



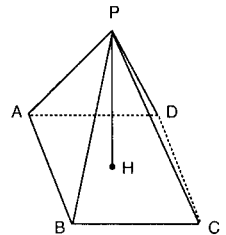
ŞEKİL I



ŞEKİL II

- A) 226 B) 278 C) 312 D) 478 E) 576

10. Şekildaki kare dik piramidin yüksekliği $|PH| = 5$ cm dir. $|PB| = 13$ cm ise **piramidin hacmi kaç cm³ tür?**

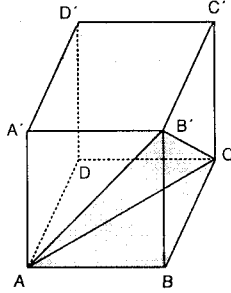


- A) 260 B) 310 C) 340 D) 420 E) 480

11. Tabanı kare olan bir düzgün piramidin tabanının bir kenarının uzunluğu 6 cm ve yüksekliği ise 4 cm'dir. Bu piramidin yanal alanının hacmine oranının sayıca değeri kaç olmalıdır?

A) $\frac{5}{4}$ B) $\frac{4}{3}$ C) $\frac{3}{2}$ D) $\frac{6}{5}$ E) $\frac{7}{6}$

12. Şekildeki küpün bir kenarının uzunluğu 6 br'dir. Tabanı $\triangle ABC$ 'ni olan (B', ABC) piramidinin tüm alanı kaç br^2 olur?

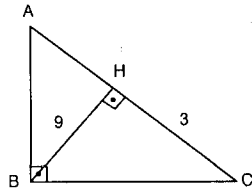


A) $12(2+\sqrt{2})$ B) $6(\sqrt{3}+\sqrt{2})$ C) $18(3+\sqrt{2})$
D) $12(3+\sqrt{2})$ E) $18(3+\sqrt{3})$

13. Bir kürenin en büyük kesit daresinin alanı $289\pi \text{ cm}^2$, diğer bir kesit daresinin alanı $225\pi \text{ cm}^2$ dir. Kürenin merkezinin küçük dairenin merkezine uzaklığı kaç cm'dir?

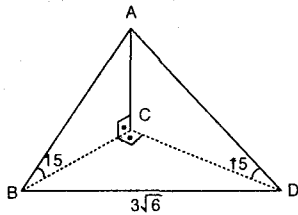
A) 6 B) 7 C) 8 D) 10 E) 12

14. Şekildeki dik üçgen $[AC]$ etrafında 360° döndürülüyor. Elde edilen cismin hacmi kaç br^3 olur?



A) 810π B) 780π C) 680π
D) 640π E) 620π

15.



Şekildeki (A, BDC) dörtyüzünde

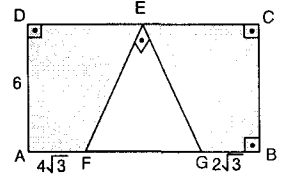
$m(\hat{ABC}) = m(\hat{ADC}) = 15^\circ$ ve $IBDI = 3\sqrt{6}$ cm ise $IACI$ kaç cm'dir?

A) $6\sqrt{3}-27$ B) $6\sqrt{3}$ C) $6\sqrt{3}-9$
D) $2\sqrt{3}-27$ E) $4\sqrt{3}-27$

16. Bir kesik koninin taban yarıçapları 6 br ve 10 br, yüksekliği ise 3 br'dir. Buna göre kesik koninin yanal alanı kaç br^2 dir?

A) 40π B) 60π C) 72π
D) 80π E) 90π

17. Şekildeki dikdörtgende, $IADI = 6$ cm, $IAFI = 4\sqrt{3}$ cm, $IGBI = 2\sqrt{3}$ cm ve $[EF] \perp [EG]$ dir.



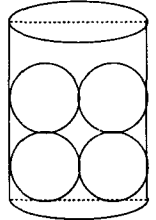
$m(\hat{EFG}) = 30^\circ$ ise taralı düzlemsel bölgenin $[AB]$ etrafında 30° döndürülmesiyle oluşan cismin hacmi kaç $\pi \text{ cm}^3$ olur?

A) $68\sqrt{3}$ B) $52\sqrt{3}$ C) $42\sqrt{3}$
D) $34\sqrt{3}$ E) $27\sqrt{3}$

18. Bir piramit tabanına paralel üç düzlemle kesilerek yükseklikleri eşit dört parçaya bölünüyor. Tepeden itibaren 3. parçanın hacmi 57 cm^3 ise 4. parçanın hacmi kaç cm^3 tür?

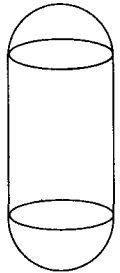
A) 98 B) 111 C) 115 D) 120 E) 130

19. Taban çapı 4 br, yüksekliği 8 br olan silindirin içine, düzlemlere ve birbirlerine teğet olacak şekilde 4 tane eş küre yerleştiriliyor. Silindir bu halde iken su ile doldurulup küreler çıkarılıyor. Suyun yüksekliği kaç br azalır?



A) $\frac{5}{3}$ B) $\frac{4}{3}$ C) $\frac{1}{3}$ D) $\frac{1}{4}$ E) $\frac{1}{6}$

20. Şekildeki silindirin alt ve üst kapakları birer yarım küredir. Cismin hacmi $360\pi \text{ br}^3$, silindirin taban yarıçapı 6 br ise yüksekliği kaç br'dir?



A) 1 B) 2 C) 3 D) 4 E) 5

PİRAMİT-KÜRE

TEST 4

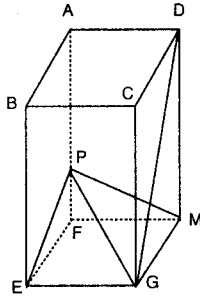
1. Bir dik koninin yüksekliği 12 cm ve taban yarıçapı 16 cm'dir. Bu koninin yanal yüzeyini oluşturan daire diliminin merkez açısı kaç derecedir?

A) 72 B) 84 C) 112 D) 144 E) 288

2. Bir dik koninin yanal alanının taban alanına oranı $\frac{12}{7}$ ise bu dik koninin yanal alanını oluşturan daire diliminin merkez açısı kaç derecedir?

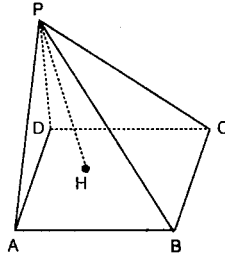
A) 180 B) 200 C) 210 D) 240 E) 320

3. Şekildeki kare dik prizmada, $IEGI = 6$ br, $IGDI = 10$ br'dir. $IAFI = 4$, $IPFI$ ise $(P'FEGM)$ piramitinin hacmi kaç br^3 tür?



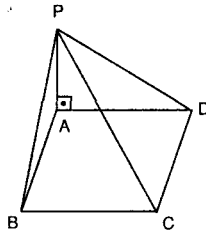
A) 6 B) 12 C) 24 D) 36 E) 48

4. Şekilde ABCD dikdörtgendir. H noktası, P'nin dikdörtgen düzlemi üzerindeki izdüşümüdür. $IPDI = 6$ cm, $IPCI = 7$ cm, $IPBI = 9$ cm ise $IPAI$ aşağıdakilerden hangisidir?



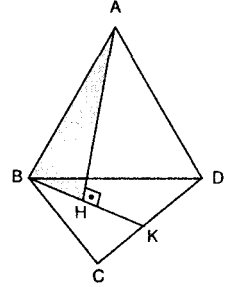
A) $3\sqrt{15}$ B) 8 C) $2\sqrt{17}$
D) 10 E) $6\sqrt{19}$

5. Şekilde ABCD bir kenarı 4 br olan karedir. $[PA]$, ABCD düzlemine diktir. $IPAI = 3$ br ise $\sin(\angle CPD)$ kaçtır?



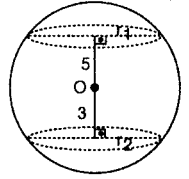
A) $\frac{2}{3}$ B) $\frac{5}{\sqrt{41}}$ C) $\frac{4}{\sqrt{41}}$ D) $\frac{3}{\sqrt{41}}$ E) 1

6. ABCD düzgün dörtyüzlüdür. $[AH] \perp [BC]$ ve $A(ABH) = 10\sqrt{2}$ br² ise dörtyüzlünün alanı kaç br² dir?



A) $15\sqrt{6}$ B) $28\sqrt{3}$ C) $36\sqrt{2}$
D) $60\sqrt{3}$ E) $90\sqrt{3}$

7. Şekilde O merkezli kürenin merkezinden uzaklıkları 5 cm ve 3 cm; yarıçapları r_1 ve r_2 olan iki kesiti verilmiştir. $r_2 - r_1 = 2$ cm ise r_2 yarıçaplı kesitin çevresi kaç π cm'dir?

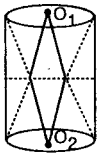


A) 6π B) 8π C) 10π D) 12π E) 14π

8. Bir kesik koninin taban yarıçapları 4 ve 8 cm'dir. Yüksekliği 3 cm olduğuna göre yanal alanı kaç π cm² dir?

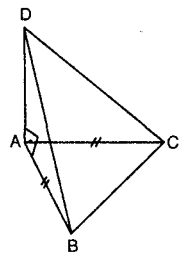
A) 24 B) 36 C) 48 D) 60 E) 72

9. Şekildeki dik silindirin içinde tepeleri O_1 ve O_2 olan koniler vardır. Bu konilerin arakesitlerinin hacmi "V" ise silindir ile konilerin arasında kalan kısmın hacmi kaç V'dir?



A) 3V B) 5V C) 6V D) 10V E) 11V

10. ABC ve DCB düzlemleri arasındaki açı 30° dir. $[DA] \perp$ CAB düzlemi, $[CA] \perp [AB]$, $IDCI = 3\sqrt{7}$ cm ve $IACI = IABI$ ise piramitinin hacmi kaç cm³ tür?



A) 27 B) 24 C) 21 D) 18 E) 16

11. Bir düzgün altıgen piramitin tabanının bir kenarının uzunluğu 12 cm ve yüksekliği $2\sqrt{21}$ cm'dir. **Bu piramitin alanı kaç cm^2 dir?**

A) $482\sqrt{3}$ B) $490\sqrt{3}$ C) $504\sqrt{3}$
D) $520\sqrt{3}$ E) $524\sqrt{3}$

12. Kürenin içine taban merkezi, kürenin merkezinde olan bir dik koni yerleştirilmiştir. **Bu koninin hacmi $243\pi \text{ cm}^3$ ise kürenin hacmi kaçtır?**

A) 972π B) 942π C) 930π
D) 920π E) 906π

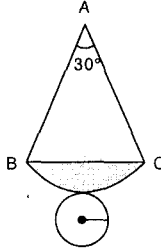
13. İçinde bir miktar su bulunan $2\sqrt{3}$ cm taban yarıçaplı dik silindir şeklindeki bardağın içine demirden bir küre atılıyor. Kürenin tamamen suya batmasıyla su düzeyi 3 cm yükseliyor. **Kürenin yarıçapı kaç cm'dir?**

A) 1 B) 2 C) 3 D) 4 E) 5

14. Şekilde bir dik koninin açık şekli verilmiştir.

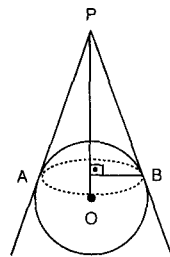
Taralı bölgenin alanı $\left(\frac{\pi}{4} - \frac{3}{4}\right)$

br^2 ise **taban yarıçapı r kaç br dir?**



A) 1 B) $\frac{\sqrt{3}}{12}$ C) $\frac{\sqrt{3}}{6}$ D) $\frac{\sqrt{3}}{3}$ E) $\sqrt{3}$

15. Şekildeki dik koninin PA ve PB anadoğruları, merkezi O olan küreye teğettir. Koninin taban yarıçapı $\sqrt{3}$ cm yüksekliği 12 cm olduğuna göre **kürenin alanı kaç $\pi \text{ cm}^2$ dir?**

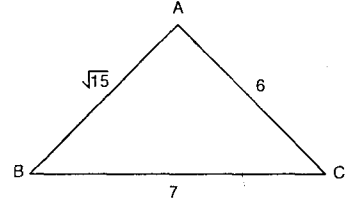


A) 98 B) 63 C) 49 D) $\frac{49}{2}$ E) $\frac{49}{4}$

16. Kenar uzunluğu $5\sqrt{2}$ olan kare, köşegenlerinden biri etrafında döndürüldüğünde oluşan cismin **hacmi kaç $\pi \text{ br}^3$ tür?**

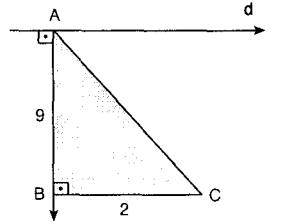
A) $\frac{125\pi}{3}$ B) $\frac{150\pi}{3}$ C) $\frac{200\pi}{3}$
D) $\frac{230\pi}{3}$ E) $\frac{250\pi}{3}$

17. Şekildeki ABC üçgenini BC kenarı etrafında 360° döndürdüğünde oluşan cismin hacmi kaç br^3 tür?



A) $\frac{68\pi}{3}$ B) $\frac{77\pi}{3}$ C) $\frac{49\pi}{3}$ D) $\frac{43\pi}{3}$ E) $\frac{44\pi}{3}$

18. Şekildeki taralı ABC bölgesi, d doğrusu etrafında 360° döndürülüyor. **Oluşan cismin hacmi kaç $\pi \text{ cm}^3$ tür?**

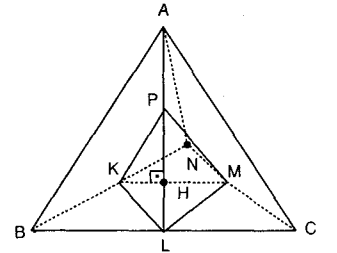


A) 54 B) 81 C) 108 D) 121 E) 154

19. Taban yarıçapı 4 cm ve yüksekliği 60 cm olan silindir şeklindeki bir kap yarıya kadar su ile doludur. **Kabın içine yarıçapı 2 cm olan kürelerden 3 tane atılırsa su kaç cm yükselir?**

A) 1 B) 2 C) 2,5 D) 3 E) 4,5

20. Şekilde (A, BNC) üçgen piramitin yüksekliği IAHI'dir. K, L, M noktaları NBC üçgeninin kenarlarının orta noktaları olmak üzere,



$|PH| = 3|AI|$ ise **dıştaki piramitin hacminin içtekinin hacmine oranı nedir?**

A) $\frac{16}{3}$ B) 5 C) $\frac{14}{3}$ D) 4 E) 3

PİRAMİT-KÜRE

TEST

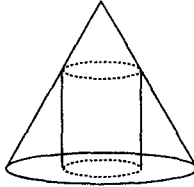
5

1. Bir düzgün altıgen piramitin tabanının bir kenarı $2\sqrt{3}$ br ve yüksekliği 4 br'dir. **Yanal alanı kaç br² dir?**
- A) $10\sqrt{3}$ B) $15\sqrt{3}$ C) $30\sqrt{3}$
D) $45\sqrt{3}$ E) $60\sqrt{3}$
2. Düzgün kare piramitte tabanının bir ayrıtı 10 br ve yanal alanı 260 br²'dir. **Piramidin hacmi kaç br³tür?**
- A) 100 B) 150 C) 200 D) 300 E) 400
3. Yüksekliği 20 cm olan bir piramit tepeden itibaren 5 cm uzaklıkta tabana paralel bir düzlemle kesiliyor. **Kesit alanı ile taban alanı toplamı 68 cm² ise piramitin hacmi kaç cm³tür?**
- A) $\frac{1280}{3}$ B) $\frac{1295}{3}$ C) $\frac{1340}{3}$ D) $\frac{1420}{3}$ E) $\frac{1490}{3}$
4. Yarıçapı 6 cm ve merkez açısı 60° olan bir daire dilimi kıvrılarak bir koni oluşturuluyor. **Koninin hacmi kaç π br³tür?**
- A) $\frac{\sqrt{30}}{3}$ B) $\frac{4\sqrt{2}}{3}$ C) $\frac{\sqrt{35}}{3}$ D) 2 E) $\frac{\sqrt{37}}{3}$
5. Bir dik koninin 6 cm olan ana doğrusu taban düzlemi ile 60°'lik açı yapmaktadır. **Bu koninin hacmi kaç π cm³ tür?**
- A) $2\sqrt{3}$ B) $4\sqrt{3}$ C) $7\sqrt{3}$
D) $9\sqrt{3}$ E) $12\sqrt{3}$
6. Taban yarıçapı 12 br ve yüksekliği 16 br olan bir dik koni içine yüzeylere teğet bir küre yerleştiriliyor. **Kürenin yarıçapı kaç br'dir?**
- A) 6 B) 8 C) 9 D) 10 E) $10\sqrt{2}$
7. Yüksekliği 12 br olan düzgün dörtyüzlünün alanı nedir?
- A) $200\sqrt{3}$ B) $204\sqrt{3}$ C) $216\sqrt{3}$
D) $220\sqrt{3}$ E) $240\sqrt{3}$
8. Bir kenarı 4 br olan düzgün sekiz yüzlünün hacmi kaç br³tür?
- A) $20\sqrt{2}$ B) $21\sqrt{2}$ C) $\frac{64\sqrt{2}}{3}$
D) $22\sqrt{2}$ E) $\frac{70\sqrt{2}}{3}$
9. Bir piramit tabana paralel bir düzlemle kesilip yukarıda kalan hacim ile aşağıda kalan hacim $\frac{1}{3}$ oranında ayrılmıştır. **Piramitin taban alanı ile kesit alanı oranı nedir?**
- A) $\sqrt[3]{2}$ B) $2\sqrt[3]{2}$ C) $3\sqrt[3]{2}$
D) $4\sqrt[3]{2}$ E) $5\sqrt[3]{2}$
10. Bir düzgün kare piramidin taban ayrıtı 12 br ve hacmi 384 br³ tür. **Yanal yüzünün taban ile yaptığı açının sinüsü nedir?**
- A) $\frac{1}{2}$ B) $\frac{3}{5}$ C) $\frac{4}{5}$ D) $\frac{\sqrt{3}}{2}$ E) $\frac{5}{7}$

11. Bir koninin yüksekliği bir silindirin içinde bulunan bir miktar suyun yüksekliğinin $\frac{1}{9}$ u kadardır. Silindirin içindeki su, koniye boşaltılınca koni tamamen doluyorsa koninin yarıçapının silindirin yarıçapına oranı nedir?

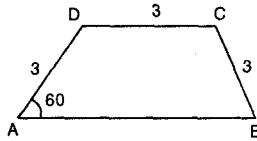
A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $3\sqrt{3}$ D) $4\sqrt{3}$ E) $5\sqrt{3}$

12. Şekilde koninin içine yerleştirilen silindirin yarıçapı 6 br'dir. Koninin ana doğrusu 30 br ve yüksekliği 24 br'dir. Koninin yanıl alanının silindirin hacmine oranı nedir?



A) $\frac{1}{2}$ B) $\frac{9}{16}$ C) $\frac{5}{8}$ D) $\frac{15}{16}$ E) $\frac{5}{4}$

13. Şekildeki yamuk AB kenarı etrafında döndürülürse elde edilen cismin hacmi kaç br^3 dür?



A) 16π B) 20π C) 27π D) 29π E) 52π

14. Alanı 800π olan bir kürenin içine yerleştirilen koninin yüksekliği $18\sqrt{2}$ cm ise bu koninin hacmi kaç π cm^3 tür?

A) $400\sqrt{2}$ B) $432\sqrt{2}$ C) $440\sqrt{2}$
D) $470\sqrt{2}$ E) $490\sqrt{2}$

15. $A(-4, 6)$ noktasının $3x - 4y + 16 = 0$ doğrusuna olan uzaklığını çap kabul eden kürenin alanı nedir?

A) 10π B) 11π C) 12π D) 14π E) 16π

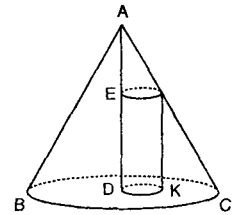
16. $y = x + 1$, $y = 2x - 2$ ve $y = 0$ doğruları arasında kalan bölgenin x eksenı etrafında döndürülmesi ile oluşan cismin hacmi kaç br^3 dür?

A) 10π B) $\frac{32\pi}{3}$ C) 11π D) $\frac{34\pi}{3}$ E) 12π

17. Hacmi $250 br^3$ olan dik bir koni yüksekliğinin $\frac{2}{5}$ kadar tepeden itibaren tabana paralel bir düzlemlle kesiliyor. Elde edilen kesik koninin hacmi kaç cm^3 dür?

A) 140 B) 196 C) 200 D) 220 E) 234

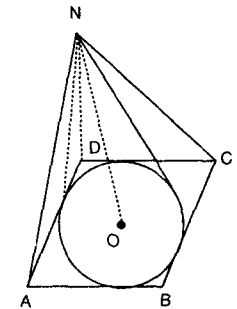
18. Şekilde DK çaplı dik silindir ile taban yarıçapı [DC] olan dik koni verilmiştir.



$2IAEI = IADI$ ise $\frac{V_{\text{silindir}}}{V_{\text{koni}}}$ oranı nedir?

A) $\frac{1}{32}$ B) $\frac{3}{32}$ C) $\frac{1}{8}$ D) $\frac{5}{32}$ E) $\frac{1}{4}$

19. Şekildeki (N, ABCD) düzgün piramidinin yan yüzleri birer eşkenar üçgen olup yanıl alanı $40\sqrt{3} cm^2$ ise piramidin içine yerleştirilen en büyük hacimli dik koninin yanıl alanı kaç cm^2 dir?



A) $8\sqrt{3}\pi$ B) $10\sqrt{3}\pi$ C) $12\sqrt{3}\pi$
D) $14\sqrt{3}\pi$ E) $16\sqrt{3}\pi$

20. Bir küre merkezinden 3 cm uzaklıkta olan bir düzlemlle kesiliyor. Kesit alanının, küre alanına oranı $\frac{1}{16}$ ise kürenin yarıçapı kaç br'dir?

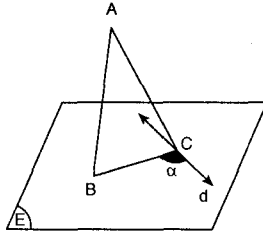
A) $\sqrt{3}$ B) $2\sqrt{3}$ C) $4\sqrt{3}$ D) $5\sqrt{3}$ E) $6\sqrt{3}$

TARAMA - 1

1. R^3 de aşağıdakilerden hangisi doğrudur?

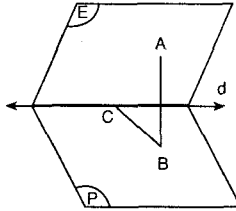
- A) İki farklı düzlemin bir ortak noktası varsa düzlemler çakışıktır.
 B) Paralel iki düzlemden birinin içindeki doğru diğer düzlemi kesebilir.
 C) Bir doğru bir düzleme paralelse düzlem içindeki tüm doğrulara da paraleldir.
 D) Uzayda bir noktadan eşit uzaklıkta bulunan noktaların kümesi çemberdir.
 E) Uzayda farklı iki doğru kesişiyorsa bu iki doğru düzlemseldir.

2. Şekilde $[AB] \perp E$,
 $[AC] \perp d$ ise α açısı
 kaç derecedir?



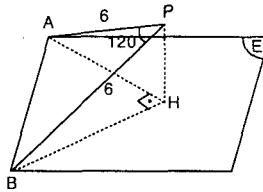
- A) 30 B) 45 C) 60 D) 90 E) 100

3. E ve P düzlemlerinin
 ölçük açısı 60° 'dir.
 $|AB| = \sqrt{6}$ br,
 $[BC] \perp d$, $|CB| = \sqrt{2}$ br
 ise $m(\angle ABC)$ kaç
 derecedir?



- A) 15 B) 30 C) 45 D) 60 E) 90

4. $m(\angle APB) = 120^\circ$
 $|PA| = |PB| = 6$ cm
 ve PAB üçgeninin E
 düzlemi üzerindeki
 dik izdüşümü ABH
 dik üçgenidir. Buna
 göre $|AH|$ kaç cm'dir?



- A) $2\sqrt{6}$ B) $3\sqrt{6}$ C) $4\sqrt{6}$
 D) $3\sqrt{3}$ E) $4\sqrt{3}$

5. Bir dikdörtgenler prizmasının boyutları 4, 3, 2 ile ters orantılıdır. Prizmanın tüm alanı 432 cm^2 ise hacmi kaç cm^3 tür?

- A) 420 B) 450 C) 480
 D) 576 E) 676

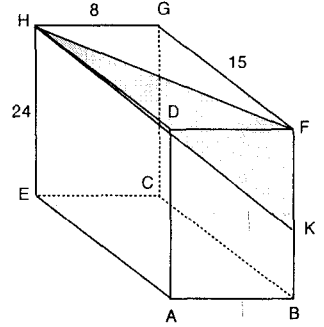
6. Tabanının bir kenarı 4 br olan düzgün altıgen dik prizmanın yüksekliği 8 br'dir. Prizmanın alanı kaç br^2 dir?

- A) $190 + 30\sqrt{3}$ B) $192 + 36\sqrt{3}$
 C) $192 + 48\sqrt{3}$ D) $162 + 48\sqrt{3}$
 E) $160 + 30\sqrt{3}$

7. Bir silindirin yüksekliği sabit tutulmak şartıyla taban yarıçapı iki katına çıkarılırsa hacmi ne kadar değişir?

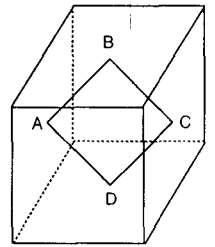
- A) 4 kat artar B) 2 kat artar
 C) $4\pi \text{ br}^3$ azalır D) 3 kat artar
 E) $3\pi \text{ br}^3$ azalır

8. Şekildeki
 dikdörtgenler
 prizmasında
 $|BK| = |KF|$,
 $|HG| = 8$ br,
 $|GF| = 15$ br,
 $|HE| = 24$ br ise
 Δ
 $A(HKF)$ kaç br^2
 dir?



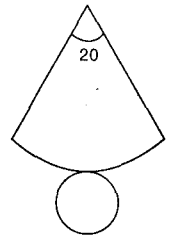
- A) 90 B) 96 C) 102 D) 115 E) 120

9. Şekildeki küpte A, B, C, D
 bulundukları yüzün ağırlık
 merkezleridir.
 ABCD dörtgeninin alanı 16
 br^2 ise kübün cismi
 köşegeni kaç br 'dir?



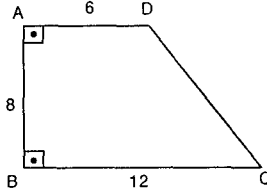
- A) 4 B) 8 C) $4\sqrt{6}$ D) $5\sqrt{6}$ E) $8\sqrt{6}$

10. Şekilde bir dik koninin açık şekli verilmiştir. Taban alanı $\pi \text{ br}^2$ ise yanal alanı kaç $\pi \text{ br}^2$ dir?



- A) 18 B) 16 C) 14 D) 12 E) 10

11. ABCD dik yamuğunda
 $IBC = 12$ br,
 $ADI = 6$ br,
 $ABI = 8$ br'dir.



ABCD dörtgensel bölgesinin [AD] kenarı etrafında 360° döndürülmesiyle oluşan cismin hacmi kaç π br³ tür?

- A) 570 B) 590 C) 600 D) 610 E) 640

12. Bir dikdörtgenler prizmasının boyutları %40 azaltılırsa hacmi %kaç azalır?

- A) 20 B) 21,6 C) 40,8 D) 70 E) 78,4

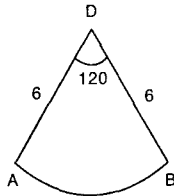
13. 20 cm boyunda 2 cm yarıçaplı silindir şeklindeki 15 kalem beşerli üç sıra halinde bir dirdörtgenler prizması şeklindeki kutuya konulacaktır. Bu kutunun hacmi en az kaç cm³ tür?

- A) 3900 B) 4000 C) 4300
 D) 4800 E) 5000

14. Bir fabrikada yapılan silindirin yarıçapları $2 < r \leq 4$ ve yükseklikleri $8 \leq h \leq 12$ olacak şekilde değişmektedir. Silindirlerin hacimleri hangi aralıkta değişir?

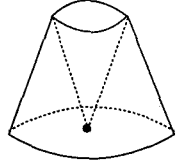
- A) $(30\pi, 160\pi)$ B) $[32\pi, 192\pi]$
 C) $[32\pi, 190\pi]$ D) $(32\pi, 192\pi)$
 E) $[32\pi, 160\pi]$

15. Yanyüzünün açılmış hali şeklindeki daire dilimi olan dik koninin hacmi kaç br³ tür?



- A) $\frac{16\sqrt{2}\pi}{3}$ B) $\frac{14\sqrt{2}\pi}{3}$ C) $\frac{10\sqrt{2}\pi}{3}$
 D) $\frac{7\sqrt{2}\pi}{3}$ E) $\frac{5\sqrt{2}\pi}{3}$

16. Şekildeki kesik koniden tepesi kesik koninin taban merkezinde olan koni çıkarılıyor. Küçük koninin taban alanının büyük koninin taban alanına oranı $\frac{1}{4}$



İse kalan kısmın hacminin çıkartılan koninin hacmine oranı nedir?

- A) 2 B) 3 C) 4 D) 6 E) 20

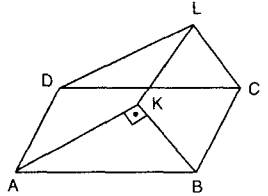
17. Eni 80 cm, yüksekliği 250 cm olan dikdörtgen şeklindeki bir kapı 60° açılırsa süpürdüğü hacim kaç m³ dür?

- A) $\frac{2\pi}{75}$ B) $\frac{4\pi}{15}$ C) $\frac{3\pi}{16}$ D) $\frac{3\pi}{8}$ E) $\frac{5\pi}{12}$

18. Taban yarıçapı 3 cm, yüksekliği 12 cm olan silindir şeklindeki bir bardak su ile doludur. Bardak yatay düzlemle 45° lik açı yapacak biçimde eğilirse dökülen suyun hacminin kapta kalan suyun hacminin kapta kalan suyun hacmine oranı nedir?

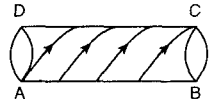
- A) $\frac{1}{2}$ B) $\frac{2}{3}$ C) $\frac{1}{3}$ D) $\frac{3}{4}$ E) $\frac{2}{5}$

19. Şekilde ABCD dikdörtgen, KBCL karedir. $[AK] \perp [KB]$, $[DL] \perp [LC]$
 $|AB| = 5$ br,
 $|KB| = 3$ br ise cismin hacmi kaç br³ dür?



- A) 6 B) 12 C) 16 D) 18 E) 36

20. Şekildeki silindirin yarıçapı $\frac{21}{11}$ br ve $|AB| = 20$ br'dir. A



noktasındaki karınca silindir yüzeyi üzerinde ilerlemek şartıyla dört tur atarak en kısa yoldan C noktasına ulaşacaktır. Katettiği yolun uzunluğu kaç br'dir? ($\pi = \frac{22}{7}$)

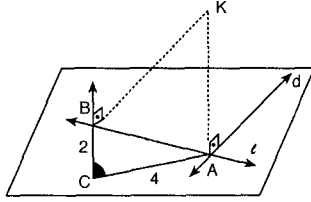
- A) 40 B) 48 C) 49 D) 50 E) 52

TARAMA - 2

1. Aşağıdakilerden hangisi yanlıştır?

- A) Uzayda farklı iki doğrunun en çok bir ortak noktası vardır.
 B) Kesişen iki düzlemin birbirine paralel olan doğru, bu düzlemlerin arakesit doğrusuna da paraleldir.
 C) Uzayda bir doğru ve bu doğru üzerinde bulunmayan bir nokta bir tek düzlem belirtir.
 D) Farklı iki düzlemin en çok iki ortak doğrusu vardır.
 E) Doğrusal olmayan üç noktadan bir düzlem geçer.

2. $[CB, d]$ ve l doğruları bir E düzleminin içindedir. $[KA] \perp d$, $[KB] \perp BC$, $|BC| = 2$ br ve



$|KA| = 4$ br ise $m(\hat{C})$ kaç derecedir?

- A) 15 B) 30 C) 45 D) 60 E) 90

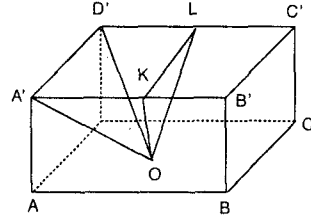
3. Bir d doğrusu bir E düzlemini kesiyor. Doğrunun üzerinde bulunan ve düzlemin iki yanında kalan A ve B noktalarının düzlem üzerindeki dik izdüşümleri A' ve B' noktalarıdır. $|A'B'| = 8$ br ve $|AB| = 16$ br ise noktaların düzleme uzaklıkları toplamı kaç br'dir?

- A) 4 B) $4\sqrt{3}$ C) 6 D) 8 E) $8\sqrt{3}$

4. Bir dik silindirin yanal alanı $64\pi br^2$ ve yüksekliği 8 br ise hacmi kaç πbr^3 olur?

- A) 96 B) 120 C) 128 D) 132 E) 150

5. Şekildeki dikdörtgenler prizmasında O noktası, tabanın ağırlık merkezidir. K ve L orta noktalar, $|BC| = 16$ br, $|AB| = 12$ ve $|CC'| = 24$ ise taralı alan kaç br^2 dir?



- A) 192 B) $26\sqrt{17} + 192$
 C) $30\sqrt{17} + 196$ D) $48\sqrt{17} + 80$
 E) $48\sqrt{17} + 192$

6. Bir kübün hacmi $x \text{ cm}^3$ ise cisim köşegeni nedir?

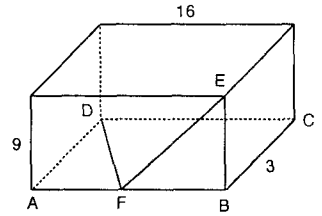
- A) $\sqrt[3]{3x}$ B) $\sqrt[3]{9x}$ C) $\sqrt{27x}$
 D) $\sqrt[3]{27x}$ E) $\sqrt[3]{27x}$

7. Yüksekliği 8 br, yarıçapı 4 br olan bir silindir su ile doludur. İçine yarıçapı 1 br ve yüksekliği 10 br olan silindir tabanları çakışana dek batırılıyor ve taşan sudan sonra çıkarılıyor.

Son durumda suyun yüksekliği kaç br'dir?

- A) 6 B) 7,375 C) 7,5
 D) 8,125 E) 9,2

8. Şekildeki dikdörtgenler prizmasında boyutlar 3, 9 ve 16 br'dir.



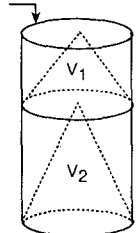
$|EF| = 15$ br ise taralı alan kaç br^2 dir?

- A) 30 B) 36 C) 40 D) 42 E) 58

9. Tabanı eşkenar üçgen olan bir dik prizmanın yanal alanı 48 cm^2 ve yüksekliği 8 cm'dir. Bu prizma taban alanı kaç cm^2 dir?

- A) $\sqrt{2}$ B) $\sqrt{3}$ C) $2\sqrt{3}$ D) $\sqrt{6}$ E) $2\sqrt{6}$

10. Şekildeki 12 br yükseklikteki 4 br yarıçaplı silindirin içine hacimleri oranı $\frac{V_1}{V_2} = \frac{1}{2}$ olan silindir ile eş yarıçaplı koniler yerleştirilmiştir. Silindire tepeden kaç lt'lik su konulabilir?



- A) $\frac{64\pi}{3}$ B) $\frac{128\pi}{3}$ C) 128π
 D) 130π E) $\frac{135\pi}{4}$

11. Silindirik biçimindeki bir tomruk yontularak en büyük hacimli bir kare prizma biçiminde kalas elde edilecektir. **Tomruğun hacminin, kalasın hacmine oranı nedir?**

- A) $\frac{\pi}{9}$ B) $\frac{\pi}{6}$ C) $\frac{\pi}{4}$
D) $\frac{\pi}{3}$ E) $\frac{\pi}{2}$

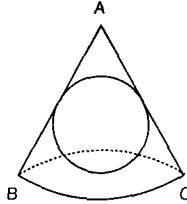
12. Çapı 16 br olan bir küre merkezinden $4\sqrt{2}$ br uzaklıktaki bir düzlemle kesiliyor. **Arakesit bölgesinin alanı kaç br² dir?**

- A) 4π B) 8π C) 16π D) 32π E) 64π

13. Taban yarıçapı 2 br, yüksekliği $4\sqrt{2}$ br olan koni açıldığında elde edilen daire diliminin tepe açısı kaç derece olur?

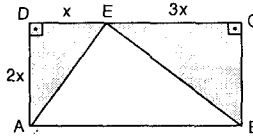
- A) 30 B) 45 C) 60 D) 120 E) 150

14. Şekildeki koninin içine küre yerleştirilmiştir. Kürenin merkezi ΔABC nin ağırlık merkezinde ve $|AB| = 8$ br ise **kürenin yüzey alanı nedir?** ($\pi = 3$)



- A) 16 B) 32 C) 48 D) 64 E) 84

15. ABCD dikdörtgeninde $|AD| = 2x$ br, $|DE| = x$ br, $|EC| = 3x$ br'dir. Taralı düzlemsel bölgenin [AB] eksenini etrafında 360° dönmesiyle oluşan cismin hacmi $\frac{4\pi}{3}$ br³ ise **x kaç br'dir?**

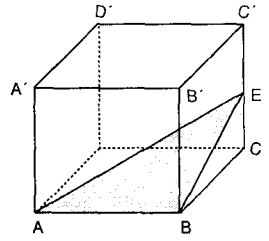


- A) $\frac{1}{4}$ B) $\frac{1}{3}$ C) $\frac{1}{2}$ D) 1 E) $\frac{3}{2}$

16. Şekildeki küpün bir kenarı 6 br'dir.

$$2|ICE| = |IEC'| \text{ ise}$$

ABE üçgeninin alanı kaç br²dir?



- A) $6\sqrt{10}$ B) $10\sqrt{3}$ C) $3\sqrt{30}$
D) $4\sqrt{15}$ E) $10\sqrt{2}$

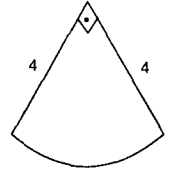
17. M ve N küplerinin hacimleri oranı 27'dir. M'nin cisim köşegen uzunluğu $9\sqrt{3}$ br ise **N'nin tüm alanı kaç br² dir?**

- A) 22 B) 38 C) 42 D) 52 E) 54

18. 6 br uzunluğundaki XY doğru parçasına 4 br uzaklığındaki noktaların oluşturduğu cismin hacmi kaç br³ dür? ($\pi = 3$)

- A) 288 B) 256 C) 324 D) 544 E) 560

19. Şekildeki O merkezli 4 br yarıçaplı dörtte birlik daire dilimi yarıçapı etrafında 150° döndürülürse elde edilen cismin hacmi kaç br³ olur?



- A) $\frac{15\pi}{4}$ B) $\frac{163\pi}{4}$ C) $\frac{169\pi}{7}$
D) $\frac{160\pi}{9}$ E) $\frac{170\pi}{9}$

20. Bir koni tabana paralel bir düzlemle kesiliyor. Koninin taban alanı, kesit alanının 9 katı ise **kesik koninin hacmi küçük koninin hacminin kaç katıdır?**

- A) 23 B) 24 C) 25 D) 26 E) 27

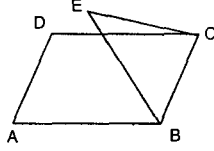
TARAMA - 3

1. R^3 te aşağıdakilerden hangisi daima doğrudur?

- A) Bir doğru diğer iki doğruyu kesiyorsa o iki doğru paraleldir.
- B) Birbirine paralel olan üç doğru düzlemseldir.
- C) Aynı düzleme paralel olan iki doğru birbirine de paraleldir.
- D) Paralel iki düzlemden birini kesen düzlem diğeri de keser.
- E) Aynı düzleme dik iki düzlem birbirine paraleldir.

2. Şekilde ABCD dikdörtgendir.

Dikdörtgenin bulunduğu düzlemin dışında sabit olmayan bir E noktası alınarak EBC eşkenar üçgeni oluşturuluyor. $|AB| = 8$ br ve $|BC| = 2\sqrt{3}$ br ise $|AE|$ nin alabileceği en büyük tamsayı değeri aşağıdakilerden hangisidir?



- A) 12 B) 11 C) 10 D) 9 E) 8

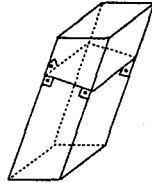
3. İki düzlemin ölçek açısı 45° 'dir. Bu düzlemlerin biri içinde yarıçapı 3 cm olan bir dairenin diğer düzlem üzerindeki dik izdüşüm alanı kaç br^2 olur?

- A) $\frac{\sqrt{2}\pi}{2}$ B) $\frac{3\sqrt{2}\pi}{2}$ C) $2\sqrt{2}\pi$
D) $\frac{7\sqrt{2}\pi}{2}$ E) $\frac{9\sqrt{2}\pi}{2}$

4. P ve E düzlemlerinin ölçek açısı 60° 'dir. P düzlemi içinde alınan bir X noktasının E düzlemi üzerindeki dik izdüşümü Y noktasıdır. $|XY| = 4\sqrt{3}$ br ise X noktasının arakesit doğrusuna olan uzaklığı kaç br'dir?

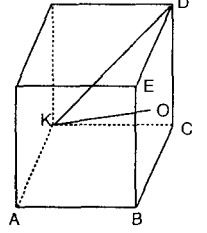
- A) 2 B) 4 C) 8 D) 12 E) $12\sqrt{3}$

5. Şekildeki eğik prizmanın dik kesit alanı $6 br^2$ ve prizmanın yanıl ayrıtları yatayla 30° 'lik açı yapmaktadır. Buna göre prizmanın taban alanları toplamı kaç br^2 dir?



- A) $6\sqrt{3}$ B) 12 C) $8\sqrt{3}$
D) 24 E) $24\sqrt{3}$

6. Şekildeki küpte O noktası BCDE yüzünün ağırlık merkezi ise $m(\hat{DKO})$ kaç derecedir?



- A) 15 B) 30 C) 45 D) 60 E) 55

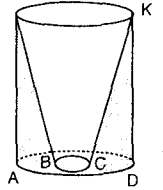
7. Bir düzgün kare piramitin yanıl ayrıtı 5 cm ve yan yüz yüksekliği 4 cm ise piramitin hacmi kaç cm^3 tür?

- A) $3\sqrt{6}$ B) $4\sqrt{5}$ C) $10\sqrt{7}$
D) $12\sqrt{7}$ E) $9\sqrt{11}$

8. Eşkenar dörtgen prizmanın yanıl yüzleri karedir. Eşkenar dörtgenin köşegen uzunlukları 5 ve 12 br ise prizmanın hacmi kaç br^3 tür?

- A) 160 B) 165 C) 173 D) 184 E) 195

9. Şekildeki silindirin içine silindirin ve koninin taban daireleri eş merkezli kesik koni yerleştirilmiştir. $|AB| = |CD| = 2$, $|BC|$ ve $|DK| = 8$ br'dir. Taralı bölgenin hacmi $\frac{352\pi}{3} br^2$ ise $|BC|$ kaç br'dir?

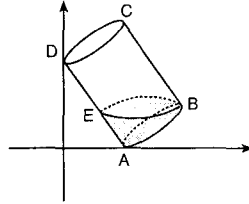


- A) $\frac{1}{4}$ B) $\frac{1}{3}$ C) $\frac{1}{2}$ D) 1 E) 2

10. Bir küpün bir ayrıtı 2 br ise bu küpün bütün yüzlerinin ağırlık merkezlerini birleştirerek elde edilen cismin hacmi kaç br^3 dür?

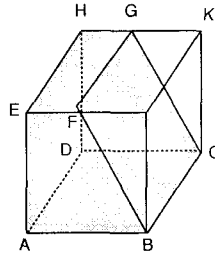
- A) $\frac{4}{3}$ B) $\frac{4}{7}$ C) $\frac{3}{4}$ D) $\frac{3\sqrt{2}}{4}$ E) $\frac{\sqrt{2}}{3}$

11. Şekilde eksenlere dayanmış silindirde
 $2|EAI| = 3|IEDI|$ ve
 silindirin tüm hacmi
 200 br^3 ise **suyun hacmi kaç br^3 dür?**



A) 15 B) 30 C) 35 D) 60 E) 65

12. Şekildeki küpün bir ayrıtı 6 br 'dir.
 $2|HGI| = 2|EFI| = |GKI|$ ise
taralı hacim kaç br^3 tür?



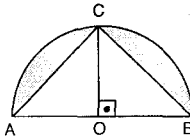
A) 96 B) 124 C) 130 D) 134 E) 144

13. Yarıçapı 2 cm olan bir küre, içinde bir miktar su bulunan bir silindirin içine tamamen batacak şekilde atılıyor ve su seviyesi 3 cm yükseliyor.

Buna göre silindirin yarıçapı kaç cm 'dir?

A) $\frac{4\sqrt{2}}{5}$ B) $\frac{4\sqrt{3}}{5}$ C) $\frac{4\sqrt{2}}{3}$ D) $\frac{\sqrt{2}}{3}$ E) $\frac{\sqrt{2}}{4}$

14. Şekilde O merkezli 4 cm yarıçaplı yarım daire verilmiştir. **Taralı bölge, $[AB]$ eksenli etrafında 360° döndürülürse elde edilen cismin hacmi kaç $\pi \text{ cm}^3$ tür?**



A) 64π B) $\frac{128\pi}{3}$ C) 32π D) $\frac{256\pi}{3}$ E) $\frac{64\pi}{3}$

15. Taban düzlemi ile 30° 'lik açı yapan bir silindirin ana doğrusu 8 cm 'dir. **Taban yarıçapı 3 cm olan bu eğik silindirin hacmi nedir?**

A) 12π B) 16π C) 24π D) 36π E) 52π

16. İki özdeş silindir şeklindeki bardakların biri yarısına diğeri $\frac{1}{3}$ 'üne kadar su ile doludur. Bu iki bardaktaki su yine aynı yükseklikteki silindir şeklindeki bir kaba boşaltıldığında kap tamamen dolmaktadır. **Kabın yarıçapının bardakların yarıçaplarına oranı nedir?**

A) $\frac{5}{6}$ B) $\frac{\sqrt{30}}{6}$ C) 1 D) $\frac{\sqrt{41}}{3}$ E) $\frac{3\sqrt{5}}{5}$

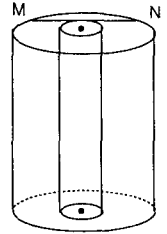
17. Tabanının bir kenarı 4 cm olan bir düzgün altıgen piramidin yüksekliği kaç cm olmalıdır ki yanal alanı taban alanının 2 katı olsun?

A) 2 B) 3 C) 4 D) 5 E) 6

18. Uzun kenarı 10 br , kısa kenarı 6 br olan dikdörtgen önce uzun kenarı sonra kısa kenarı etrafında 360° döndürülüyor. **Oluşan ilk cismin, ikinci cismin hacmine oranı nedir?**

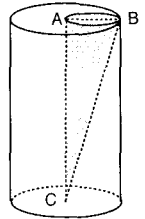
A) $\frac{1}{3}$ B) $\frac{2}{3}$ C) $\frac{4}{3}$ D) $\frac{3}{5}$ E) $\frac{4}{5}$

19. Şekilde taban daireleri aynı merkezli iç içe iki silindir çizilmiştir. $[MN]$ dıştaki taban dairesinin kirişi, içteki taban dairesinin teğetidir. $IMNI = 10 \text{ cm}$ ve silindirin yüksekliği 21 cm ise **iki silindir arasındaki boşluğun hacmi kaç cm^3 tür?**



A) 420π B) 473π C) 481π
 D) 525π E) 560π

20. Alt ve üst tabanlarının merkezleri C ve A olan büyük silindirden tabanı $[AB]$ çaplı daire olan parça çıkarılıyor. $|AB| = 6 \text{ br}$ ve $[BC]$ silindirin taban düzlemi ile 30° 'lik açı yapıyorsa silindirin kalan kısmının hacmi kaç $\pi \text{ br}^3$ dür?



A) $63\sqrt{3}$ B) $65\sqrt{3}$ C) $66\sqrt{3}$
 D) $72\sqrt{3}$ E) $74\sqrt{3}$

TARAMA - 4

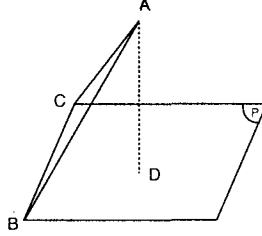
1. Aşağıdakilerden hangisi R^3 'te daima doğrudur?

- A) Farklı iki düzlem birbirini kesiyorsa, bu düzlemlerin arakesiti bir noktadır.
 B) İki doğru içinde bulundukları düzlemi dört parçaya ayırır.
 C) Verilen bir noktadan geçen ve verilen bir düzleme paralel olan bir tek doğru vardır.
 D) İki düzleme paralel üçüncü bir düzlem varsa, bu üçüncü düzlem içindeki her doğru diğer iki düzleme paraleldir.
 E) Bir doğruya üzerindeki bir noktadan bir dik çizilir.

2. E düzlemi içindeki bir dik üçgenin dik kenarları 6 ve 8 br'dir. E düzleminin P düzlemi ile ölçek açısı 30° ve bu dik üçgenin dik kenarlarından biri arakesit doğrusu üzerindedir. E düzlemindeki bu dik üçgenin P düzlemi üzerine dik izdüşüm üçgeninin ortak kenarlarına üzerindeki inebilecek yüksekliklerinin toplamı ne olur?

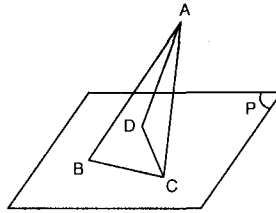
- A) $3\sqrt{5}$ B) $5\sqrt{3}$ C) $4\sqrt{3}$
 D) $6\sqrt{3}$ E) $7\sqrt{3}$

3. Şekilde $[AD] \perp P$
 $|AC| = |AB| = 20$ br
 $|BC| = 24$ br
 ve ACB düzleminin P düzlemi ile ölçek açısı 45° ise $|AD|$ kaç br'dir?



- A) $6\sqrt{3}$ B) $7\sqrt{2}$ C) $7\sqrt{3}$
 D) $8\sqrt{2}$ E) $8\sqrt{3}$

4. Şekilde D, $[BC] \perp P$ düzleminde dir.
 $[AC] \perp [CB]$
 $[DC] \perp [BC]$
 ise hangisi doğrudur?



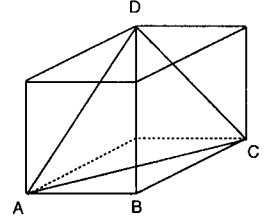
- A) $|DA| = |AC|$ B) $m(\hat{DAC}) = 30^\circ$
 C) $|AB| = |AD|$ D) $[AD] \perp [DC]$
 E) $[AC] \perp [DC]$

5. Alanı 208 br^2 ve cisim köşegeni $2\sqrt{29}$ br olan dikdörtgenler prizmasının bir köşesinden çıkan üç ayrıtının toplamı kaç br'dir?

- A) 12 B) 18 C) 20 D) 22 E) 24

6. Şekildeki kübün bir ayrıtı 4 br'dir.

(D, ABC piramidinin hacmi kaç br^3 dür?



- A) $\frac{16}{3}$ B) $\frac{22}{3}$ C) $\frac{32}{3}$ D) 16 E) 18

7. Taban çevresi 32 br olan kare piramidin tüm alanı 144 br^2 ise hacmi kaç br^3 tür?

- A) 32 B) 64 C) 68 D) 82 E) 96

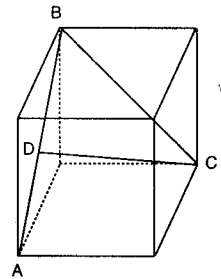
8. Bir kenar uzunluğu x br olan kübün bir köşesinden bir kenar uzunluğu y br bir küp ($x > y$) çıkarılıyor. Meydana gelen yeni cismin alanı kaç br^2 dir?

- A) x^2 B) $6xy$ C) $3x^2 - y^2$
 D) $6x^2$ E) $6y^2$

9. Bir ayrıtının uzunluğu 24 br olan bir küp eritilerek boyutları 2, 4 ve 3 br olan dikdörtgenler prizması şekline getirilecektir. Kaç tane dikdörtgenler prizması oluşturulur?

- A) 324 B) 390 C) 440 D) 570 E) 576

10. Şekildeki kübün bir ayrıtı $3\sqrt{2}$ br dir. $|DB| = |AD|$ ise $|DC|$ kaç br'dir?

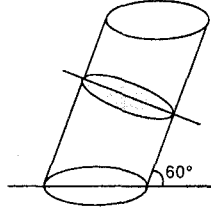


- A) $3\sqrt{2}$ B) $3\sqrt{3}$ C) $\sqrt{2}$
 D) $\sqrt{3}$ E) $\sqrt{6}$

11. Taban yarıçapı 4 cm ve yüksekliği $2\sqrt{5}$ olan dönel koni açılımında yanal yüzeyinin meydana getirdiği daire diliminin merkez açısı kaç derecedir?

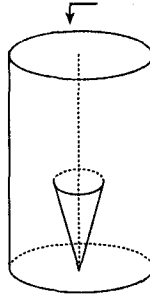
A) 60 B) 120 C) 240 D) 270 E) 280

12. Taban yarıçapı 6 br olan eğik silindirin yan ayrıtı taban düzlemi ile 60° 'lik açı yapmaktadır. Dik kesit alanı (taralı alan) kaç br^2 'dir?



A) $18\sqrt{3}\pi$ B) $18\sqrt{2}\pi$ C) 27π
D) 18π E) 9π

13. Şekildeki silindirin taban merkezine koninin tepe noktası yerleştiriliyor. Silindirin taban yarıçapı, koninin taban yarıçapının 2 katı ve yüksekliği koninin yüksekliğinin 3 katıdır. Üstteki musluktan akan su koniyi 0,2 dk. da dolduruyor ve taşıp silindiri dolduruyor. Koninin dışında bulunan bölge kaç dk. da dolar?



A) 2 B) 3 C) 4 D) 6 E) 7

14. Bir kenarı 6 cm olan küpü içine alan en küçük hacimli kürenin yarıçapı kaç cm dir?

A) $4\sqrt{3}$ B) $3\sqrt{3}$ C) 5
D) $2\sqrt{3}$ E) $\sqrt{3}$

15. Bir düzgün dörtyüzlünün yüksekliği 3 br ise alanı kaç br^2 dir?

A) $9\sqrt{3}$ B) $\frac{27\sqrt{3}}{2}$ C) $27\sqrt{3}$
D) $54\sqrt{3}$ E) $81\sqrt{3}$

16. Taban yarıçapı 4 br olan bir eğik koninin, en büyük ana doğrusunun taban düzlemi ile yaptığı açı 30° iken en küçük ana doğrusunun taban düzlemi ile yaptığı açı 60° dir. Eğik koninin hacmi kaç $\pi \text{ br}^3$ olur?

A) $\frac{64\sqrt{3}}{3}$ B) $32\sqrt{3}$ C) $\frac{128\sqrt{3}}{3}$
D) $128\sqrt{3}$ E) $\frac{256\sqrt{3}}{3}$

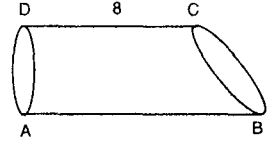
17. Eni 6 cm, boyu 8 cm olan dikdörtgen şeklindeki bir karton karşılıklı iki kısa kenarı üst üste gelecek şekilde kıvrılarak bir silindir elde ediliyor. Silindirin hacmi kaç cm^3 tür?

A) $\frac{96}{\pi}$ B) $\frac{89}{\pi}$ C) $\frac{72}{\pi}$ D) $\frac{64}{\pi}$ E) $\frac{48}{\pi}$

18. Yarıçapı 8 br olan küre merkezinden 4 br uzaklıktaki bir düzlemlle kesiliyor. Kesit yüzeyini taban kabul eden en büyük hacimli koninin hacmi kaç br^3 dür?

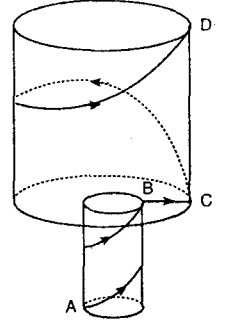
A) 192π B) 186π C) 179π
D) 160π E) 156π

19. Şekildeki silindirin [AD] çaplı yüzü tabana dik, öteki yüzü taban düzlemi ile 45° 'lik açı yapmaktadır. Cismin hacmi $192\pi \text{ br}^3$ ise IADI kaç br 'dir?



A) 2 B) 3 C) 4 D) 6 E) 8

20. Şekildeki küçük silindirin yarıçapı $\frac{4}{\pi}$ br ve yüksekliği 12 br, büyük silindirin yarıçapı $\frac{6}{\pi}$ br ve yüksekliği 16 br'dir. A'dan küçük silindir yüzeyi üzerinde 2 tur atarak B noktasına gelen böcek C noktasına geçip büyük silindirin iç yüzeyinde bir tur atıp D noktasından çıkıyor. Böceğin katettiği yol kaç br'dir?



A) 40 B) $40 + \frac{6}{\pi}$ C) $40 + \frac{2}{\pi}$
D) $40 + \frac{3}{\pi}$ E) $40 + \frac{4}{\pi}$

TARAMA - 5

1. Aşağıdakilerden kaç tanesi yanlıştır?

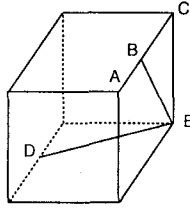
- I. Bir düzleme paralel olan bir doğru düzlem içindeki doğrulara da paraleldir.
- II. İki noktadan geçen ve bir düzleme dik olan bir düzlem vardır.
- III. Birbirine paralel üç doğru düzlemseldir.
- IV. Aynı düzleme dik olan farklı iki düzlem birbirine paraleldir.

- A) Hepsi doğru B) 1 C) 2
D) 3 E) 4

2. ABCD dikdörtgenin kenarları 8 br ve 6 br'dir. Düzlemin dışındaki E noktasından dikdörtgenin ağırlık merkezi O noktasına indirilen dikmenin uzunluğu 5 br ise [AE] nin dikdörtgen düzlemi ile yaptığı açı kaç derecedir?

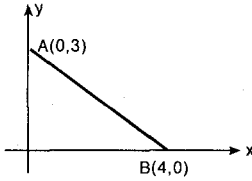
- A) 15 B) 30 C) 45 D) 60 E) 75

3. Şekildeki küpte $3IBAI = IACI$, D bulunduğu kenarın orta noktası ve $IBEI = \sqrt{52}$ br ise $IDCI$ kaç birimdir?



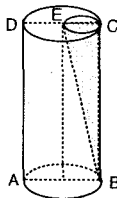
- A) 7 B) 8 C) 9 D) 10 E) 11

4. [AB]'nin y eksenini etrafında 360° döndürülmesiyle elde edilen cismin hacmi kaç br^3 'tür?



- A) 12π B) 16π C) $\frac{50}{3}\pi$
D) $\frac{35}{2}\pi$ E) 18π

5. Şekildeki silindir içindeki EB doğrusunun taban düzlemi ile yaptığı açı 60° dir. $IEBI = 20$ br ise taralı şeklin hacmi kaç br^3 dür? ($\pi = 3$)

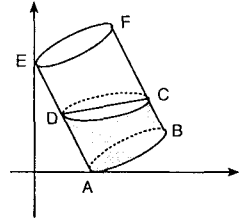


- A) $200\sqrt{3}$ B) $240\sqrt{3}$ C) $250\sqrt{3}$
D) $375\sqrt{3}$ E) $750\sqrt{3}$

6. Bir düzgün kare piramidin tabanının bir kenarı $6\sqrt{3}$ br ve yanıl yüzlerinin taban düzlemi ile yapmış olduğu açı 30° dir. Buna göre yanıl yüz alanları toplamı nedir?

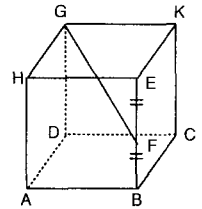
- A) $36\sqrt{3}$ B) $40\sqrt{3}$ C) $48\sqrt{3}$
D) $72\sqrt{3}$ E) $78\sqrt{3}$

7. Şekilde $IFCI = 3ICBI$, D[EA] nin orta noktası ve dolu kısmın hacmi $60 br^3$ ise dik silindirin tamamı kaç br^3 su alır?



- A) 80 B) 100 C) 120 D) 160 E) 180

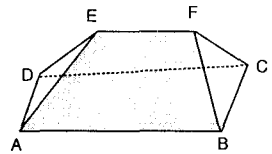
8. Şekildeki kübün hacmi $512 br^3$ ise IGFI kaç br^3 'dir?



- A) 9 B) 10 C) 11 D) 12 E) 13

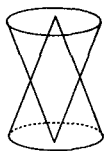
9. Şekilde bir evin çatısı verilmiştir.

ABCD dikdörtgendir. EF doğru parçasının çatının tabanına olan uzaklığı 4 br'dir. $IEFI = 6$, $IADI = 8$ br, $IDCI = 12$ br ise çatının hacmi kaç br^3 dür?



- A) 72 B) 100 C) 144 D) 160 E) 192

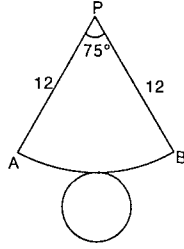
10. Şekilde yarıçapları 4 br olan eş tabanlı koniler verilmiştir. Konilerin eş yükseklikleri 12 br ise kesiştikleri bölgenin hacmi kaç br^3 dür?



- A) 6π B) 8π C) 10π D) 12π E) 16π

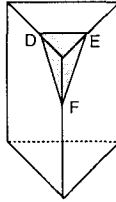
11. Yan ayrıt uzunluğu 12 br olan dik koninin açılmış şeklinde $m(\widehat{APB}) = 75^\circ$ 'dir.

Buna göre koninin tüm alanı kaç br^2 'dir?



- A) $\frac{145\pi}{4}$ B) $\frac{135\pi}{4}$ C) $\frac{125\pi}{4}$
D) 31π E) $\frac{61\pi}{2}$

12. Şekilde bütün ayrıtları birbirine eş olan üçgen dik prizma verilmiştir. D, E, F bulundukları kenarların orta noktalarıdır. (T, DEF) piramidinin, prizmanın hacmine oranı nedir?

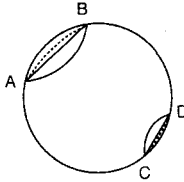


- A) $\frac{1}{24}$ B) $\frac{1}{12}$ C) $\frac{1}{8}$ D) $\frac{1}{6}$ E) $\frac{5}{24}$

13. Şekildeki küre AB düzlemi ve CD düzlemi ile kesiliyor.

$$m(\widehat{AB}) + m(\widehat{CD}) = 180^\circ \text{ ve}$$

$|AB| = 12$ br, $|CD| = 5$ br ise kürenin yüzey alanı kaç br^2 dir?



- A) 72π B) 100π C) 144π D) 169π E) 196π

14. Taban yarıçapı 2 br ve yüksekliği $4\sqrt{2}$ br olan koni açıldığında elde edilen daire diliminin merkez açısı kaç derece olur?

- A) 60 B) 100 C) 120 D) 150 E) 180

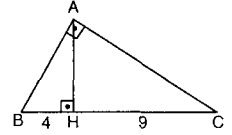
15. Yüzey alanları eşit olan bir kürenin yarıçapı ile bir silindirin taban yarıçapı eşit veriliyor. Silindirin hacminin kürenin hacmine oranı kaçtır?

- A) $\frac{3}{5}$ B) $\frac{1}{2}$ C) 2 D) $\frac{3}{4}$ E) $\frac{9}{8}$

16. Yüksekliği 9 cm olan bir koni tabana paralel ve tabandan 6 cm yukarıda bir düzlemle kesiliyor. Elde edilen kesik koninin tüm koninin hacmine oranı nedir?

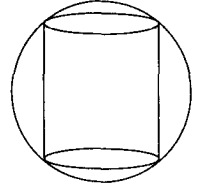
- A) $\frac{1}{9}$ B) $\frac{1}{4}$ C) $\frac{1}{2}$ D) $\frac{3}{4}$ E) $\frac{26}{27}$

17. Şekildeki ABH ve AHC üçgenleri [AH] etrafında 360° döndürüldüğünde elde edilecek cisimlerin arasında kalan hacim kaç br^3 dür?



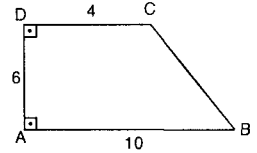
- A) 100π B) 120π C) 130π
D) 140π E) 150π

18. Çapı 13 cm olan küre içine yerleştirilen silindirin yüksekliği 12 cm olduğuna göre silindirin tüm alanı kaç $\pi \text{ cm}^2$ 'dir?



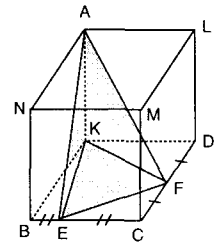
- A) 70 B) $\frac{145}{2}$ C) 85 D) $\frac{165}{2}$ E) 90

19. Şekildeki dik yamuk DC kenarı etrafında 360° döndürülürse elde edilen cismin hacmi kaç br^3 dür?



- A) 336π B) 332π C) 300π
D) 288π E) 144π

20. Şekildeki dikdörtgenler prizmasında $|LD| = 9$ cm'dir. E ve F kenarların orta noktalarıdır. (A, KEF) piramidinin hacmi 45 cm^3 dür. Dikdörtgenler prizmasının hacmi kaç cm^3 tür?



- A) 180 B) 200 C) 220
D) 320 E) 360

TARAMA - 6

1. Farklı 5 düzlem uzayı en az kaç ayrık bölgeye ayırır?

- A) 5 B) 6 C) 8 D) 10 E) 20

2. 7 elemanlı ve doğrusal olmayan noktalar kümesi en çok kaç düzlem belirler?

- A) 25 B) 30 C) 35 D) 40 E) 45

3. R^2 de aşağıdakilerden hangisi yanlıştır?

- A) Bir doğru üzerindeki bir noktadan doğruya en az bir dik doğru çizilebilir.
 B) Bir doğru üzerindeki bir noktadan doğruya en çok bir dik doğru çizilebilir.
 C) n tane paralel doğrudan herhangi birine paralel olan başka bir doğru diğerlerine de paraleldir. ($n \in \mathbb{N}^+$)
 D) n tane paralel doğrudan herhangi birini kesen başka bir doğru diğerlerini kesmeyebilir. ($n \in \mathbb{N}^+$)
 E) Birbirlerine paralel veya çakışık olmayan iki doğrunun kesişim kümeleri bir elemanlıdır.

4. Ayrık iki doğru kaç düzlem belirtir?

- A) 0 B) 1 C) 2 D) 3 E) 4

5. R^3 de aşağıdakilerden hangisi doğrudur?

- A) İki farklı noktanın içinde bulunduğu düzlem, bu iki noktanın belirttiği doğruyu kapsar.
 B) Paralel iki doğruyu kapsayan birden çok düzlem bulunabilir.
 C) Paralel veya çakışık olmayan iki doğrunun kesişim kümeleri mutlaka bir elemanlıdır.
 D) Bir doğruya dışındaki bir noktadan sonsuz sayıda dik doğru çizilebilir.
 E) Bir doğru üzerindeki bir noktaya, yalnız bir dik doğru çizilebilir.

6. R^3 de aşağıdakilerden hangisi yanlıştır?

- A) Farklı iki noktadan birçok düzlem geçer.
 B) Kesişen iki doğru yalnız bir düzlem belirtir.
 C) Uzayın düzlemsel olmayan ve en az dört noktadan oluşan bir alt kümesi vardır.
 D) Üç doğrudan ikisi bir noktada kesişiyorsa üçüncüsü bu doğrulardan birine paralel, diğerine aykırı olabilir.
 E) Bir doğruya çizilen farklı iki paralel doğruyla birlikte, bu üç doğru aynı düzlemde bulunur.

7. Bir E düzleminin farklı iki tarafında bulunan iki noktanın düzleme olan uzaklıkları 3 ve 5 br'dir. **Bu iki noktadan düzleme inilen dikmelerin düzlemi kestiği noktalar A ve A' olmak üzere $\angle AA'I = 60^\circ$ ise, bu iki nokta arasındaki uzaklık kaç br'dir?**

- A) 5 B) $5\sqrt{3}$ C) 6 D) 10 E) $10\sqrt{2}$

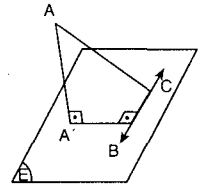
8. Bir kenarı 6 br olan ABCD karesini içine alan düzlem dışında, $|OA| = |OB| = |OC| = |OD| = 3\sqrt{3}$ br olacak biçimde bir O noktası alınıyor. **O noktasının, karenin ağırlık merkezine uzaklığı kaç br'dir?**

- A) 3 B) $3\sqrt{2}$ C) $3\sqrt{3}$ D) 4 E) $4\sqrt{2}$

9. P ve E düzlemleri arasındaki açı 30° dir. E düzleminde bulunan ABCD dörtgeninin P düzlemi üzerindeki dik izdüşümünün alanı $20\sqrt{3}$ br² ise $A(ABCD)$ kaç br² dir?

- A) 20 B) 25 C) 30 D) 35 E) 40

10. Şekildeki BC doğrusu, E düzleminin içinde, A'; A noktasından düzleme çizilen dikmenin düzlemi kestiği nokta, $[A'B] \perp BC$, $\angle AA'I = 40^\circ$ br, $|A'B| = 3$ br, $|BC| = 12$ br olmak üzere **$|AC|$ kaç br'dir?**



- A) 8 B) 10 C) 11 D) 13 E) 15

11. Farklı üç yüzeyinin alanları sırasıyla $6 br^2$, $15 br^2$ ve $40 br^2$ olan dikdörtgenler prizmasının hacmi kaç br^3 tür?

A) 40 B) 50 C) 60 D) 70 E) 80

12. Bir dikdörtgenler prizmasının farklı üç ayrıtı, a , b , c olmak üzere $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = \frac{4}{11}$ ve prizmanın hacmi $44 br^3$ ise **alanı kaç br^2 dir?**

A) 16 B) 24 C) 32 D) 36 E) 42

13. Bir dikdörtgenler prizmasının farklı üç ayrıtı a , b , c olmak üzere $a + b + c = 10 br$, alanı $60 br^2$ ise $a^2 + b^2 + c^2$ ifadesinin sonucu aşağıdakilerden hangisidir?

A) 30 B) 40 C) 50 D) 60 E) 70

14. Tabanı eşkenar dörtgen olan bir dik prizmanın, tabana ait köşegen uzunlukları 10 br, 24 br ve prizmanın yüksekliği 8 br ise **prizmanın yanal alanları toplamı kaç br^2 dir?**

A) 348 B) 400 C) 408 D) 416 E) 502

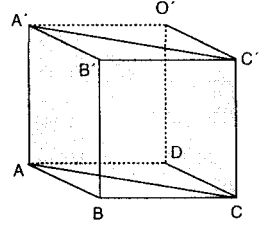
15. Hacmi alanına sayıca eşit olan bir küpün, cisim köşegenlerinin kesim noktasından, küpün yüzeylerine çizilen dikmelerin toplamı kaç br dir?

A) 18 B) 12 C) 9 D) 6 E) 3

16. Bir küpün ayrıtları %40 arttırılırsa alanı yüzde kaç artar?

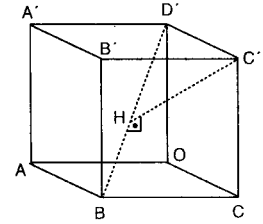
A) 96 B) 90 C) 82 D) 70 E) 68

17. Şekildeki küpte $A(ACC'A') = 9\sqrt{2} br^2$ ise **küpün hacmi kaç br^3 tür?**



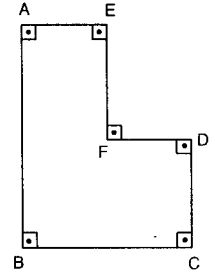
A) 9 B) 18 C) 27 D) 36 E) 54

18. Şekildeki küpün alanı $144 br^2$ ise **IC'HI kaç br dir?**



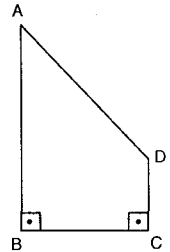
A) 2 B) 3 C) 4 D) 6 E) 8

19. Şekilde; $|AB| = 10 br$, $|BC| = 8 br$, $|DC| = 3 br$ ve $|AE| = 5 br$ ise **şeklin [AB] etrafında 360° döndürülmesiyle oluşacak cismin hacmi kaç br^3 tür?**



A) 200π B) 250π C) 297π
D) 320π E) 367π

20. Şekilde; $|BC| = 8 br$, $|AB| = 12 br$, $|DC| = 3 br$ ise **şeklin [AB] etrafında 360° döndürülmesiyle oluşacak cismin hacmi kaç br^3 tür?**



A) 300π B) 340π C) 364π
D) 384π E) 400π

TARAMA - 7

1. Birbirine paralel 6 doğru, birbirine paralel 4 doğru ile kesiştirildiğinde kaç tane paralelkenar oluşur?

A) 70 B) 75 C) 80 D) 85 E) 90

2. Bir E düzleminde bulunan 10 farklı doğru düzlemi en çok kaç ayrı bölgeye ayırabilir?

A) 40 B) 42 C) 48 D) 50 E) 56

3. R^3 'te herhangi üçü doğrusal olmayan 10 noktadan en çok kaç düzlem geçer?

A) 100 B) 110 C) 120 D) 130 E) 140

4. R^3 'te aşağıdaki önermelerden kaç tanesi yanlıştır?

1. İki farklı noktadan birden çok doğru geçebilir.
2. Bir noktadan birden çok doğru geçebilir.
3. İki farklı noktadan en az bir doğru geçebilir.
4. İki farklı noktadan en çok bir doğru geçebilir.

A) 0 B) 1 C) 2 D) 3 E) 4

5. R^2 'de aşağıdakilerden hangisi kesinlikle yanlıştır?

- A) Bir doğrunun dışındaki bir noktadan çizilecek bir doğru diğer doğruyu kesmeyebilir.
- B) Bir doğru üzerindeki bir noktadan çizilecek olan bir doğru doğruyu dik kesmeyebilir.
- C) Bir doğrunun dışındaki iki farklı noktadan çizilen doğru, doğruyu dik kesebilir.
- D) Bir doğru üzerindeki bir noktadan doğruya birden çok dik doğru çizilebilir.
- E) Farklı üç nokta üçgen belirtebilir.

6. R^3 'de aşağıdakilerden hangisi kesinlikle yanlıştır?

- A) Bir E düzleminin dışındaki iki farklı noktadan geçen ve E düzlemine dik olan sonsuz sayıda düzlem vardır.
- B) Farklı iki noktadan birçok düzlem geçer.
- C) Birbirine paralel olmayan üç doğrunun kesişim kümeleri boş küme olabilir.
- D) Bir doğruya dışındaki bir noktadan birden çok dik doğru çizilebilir.
- E) Paralel iki doğruyu kapsayan en az bir düzlem vardır.

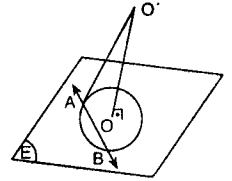
7. Uzaydaki d ve ℓ doğruları için aşağıdakilerden kesinlikle hangisi yanlıştır?

- A) $d \cap \ell = \emptyset$ olabilir.
- B) $d \cap \ell \neq \emptyset$ olabilir.
- C) $d \cap \ell$ kümesi bir düzlem belirtir.
- D) $d \cap \ell$ kümesi birden çok düzlem belirtebilir.
- E) $d \cap \ell = \emptyset$ olabilir.

8. Bir ABC üçgenin kenar orta dikmelerinin kesim noktasından üçgen düzlemine çizilen dikme üzerinden bir O noktası alınıyor. $|OA| = 5br$, ise $|OB| + |OC|$ kaç br'dir?

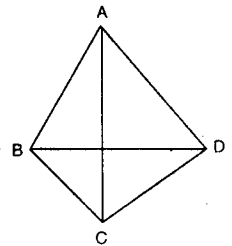
A) 5 B) $5\sqrt{2}$ C) 10
D) $10\sqrt{2}$ E) 12

9. Şekildeki E düzleminin içinde bulunan O merkezli çemberin merkezinden OO' 'l dikmesi çizilmiştir. Çemberin yarıçapı 5 br ve $|OO'| = 12$ br ise $|AO'|$ kaç br'dir?



A) 10 B) 11 C) 12 D) 13 E) 14

10. Yandaki üç boyutlu şekilde kaç tane iki düzlemlilik açı vardır?



A) 5 B) 6 C) 7 D) 8 E) 9

11. Tabanı düzgün altıgen olan bir dik pramitin taban kenarı $2\sqrt{3}$ br ve yüksekliği 8 br ise **bu piramitin hacmi kaç br³tür?**

A) $48\sqrt{3}$ B) $56\sqrt{3}$ C) $72\sqrt{3}$
D) $104\sqrt{3}$ E) $144\sqrt{3}$

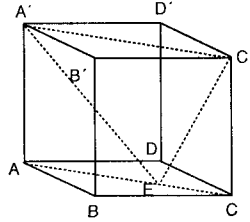
12. Alanları oranı $\frac{9}{16}$ olan iki küpün hacimleri oranı nedir?

A) $\frac{3}{4}$ B) $\frac{4}{3}$ C) $\frac{21}{16}$ D) $\frac{27}{64}$ E) $\frac{25}{61}$

13. Taban alanları toplamı, yanal alanına eşit olan bir dik silindirin hacmi 27π ise **yanyüz alanı kaç br² dir?**

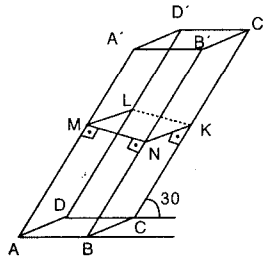
A) 12π B) 15π C) 18π D) 21π E) 27π

14. Şekildeki küpte $E \in [AC]$, $|AB| = 6$ br ise **$A(A'EC')$ kaç br² dir?**



A) 9 B) $9\sqrt{2}$ C) 18
D) $18\sqrt{2}$ E) 36

15. Şekilde tabanla 30° lik açı yapan eğik prizma ve MNKL dik kesiti verilmiştir. $A(ABCD) = 40$ br² ise **$A(MNKL)$ kaç br² dir?**

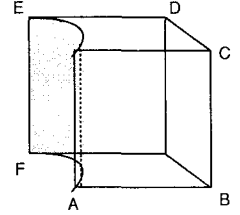


A) 20 B) $12\sqrt{3}$ C) $15\sqrt{3}$
D) $20\sqrt{3}$ E) 40

16. Bir küpün içine en büyük hacimli bir silindir yerleştiriliyor. **Silindirin hacminin küpün hacmine oranı kaç π 'dir?**

A) $\frac{1}{8}$ B) $\frac{1}{6}$ C) $\frac{1}{4}$ D) $\frac{2}{5}$ E) $\frac{3}{4}$

17. Şekilde kenarı 4 br olan bir küpten yarıçapı 2 br olan yarım silindir çıkarılmıştır. **Cismin yüzey alanı kaç br²dir?**

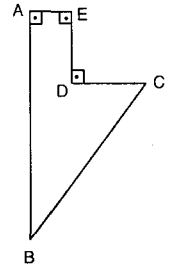


A) 80 B) 4π C) $80-4\pi$
D) $80+4\pi$ E) $80+8\pi$

18. Taban yarıçapları aynı olan bir silindir ile bir koninin hacimleri eşit ise **yükseklikleri oranı nedir?**

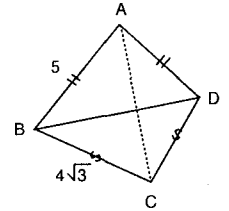
A) 1 B) 2 C) 3 D) 4 E) 5

19. Şekilde;
 $|AB| = 10$ br, $|AE| = 3$ br,
 $|DC| = 4$ br, $|ED| = 4$ br ise
çokgenin $|AB|$ etrafında 360°
döndürülmesiyle oluşacak
cismin hacmi kaç br³tür?



A) 150π B) 134π C) 130π
D) 122π E) 98π

20. Şekildeki deltoitte;
 $|AB| = |AD| = 5$ br,
 $|BC| = |CD| = 4\sqrt{3}$ br,
 $|BD| = 8$ br ise; **$[AC]$ etrafında 360° döndürülmesiyle oluşacak cismin hacmi kaç br³tür?**



A) $\frac{16\pi}{3}(5+4\sqrt{3})$ B) $\frac{13\pi}{3}(5+\sqrt{2})$
C) $\frac{16\pi}{3}(1+\sqrt{2})$ D) $\frac{16\pi}{3}(5+2\sqrt{2})$
E) $\frac{16\pi}{3}(3+4\sqrt{2})$

TARAMA - 8

1. Birbirine paralel 6 farklı düzlem uzayı kaç ayrık bölgeye ayırır?

A) 4 B) 5 C) 6 D) 7 E) 8

2. R³'te aşağıdaki önermelerden hangisi doğrudur?

- A) Bir doğru ile dışındaki bir noktadan geçen birden çok düzlem vardır.
 B) Bir doğrunun bir düzlem üzerindeki dik izdüşümü bir nokta olabilir.
 C) Bir doğrunun bir düzlem üzerindeki dik izdüşümü daima bir doğrudur.
 D) Bir doğruya dik olan iki düzlem paralel olmayabilir.
 E) Bir doğruya dik olan iki doğru daima birbirine paraleldir.

3. R³'te aşağıdaki önermelerden hangisi yanlıştır?

- A) Bir düzleme dik olan iki farklı düzlem daima birbirine paraleldir.
 B) Dik kesişen üç düzlemin kesişim kümeleri bir noktadır.
 C) Bir doğrunun dışındaki bir noktadan geçen ve doğruya dik olan yalnız bir düzlem vardır.
 D) Paralel iki doğrudan birini kesen düzlem diğerini de keser.
 E) Farklı iki düzlemin kesişim kümeleri boş küme veya bir doğrudur.

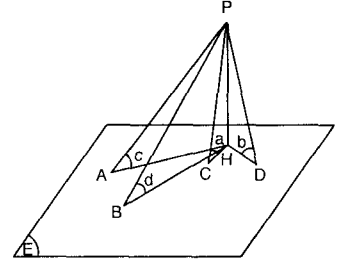
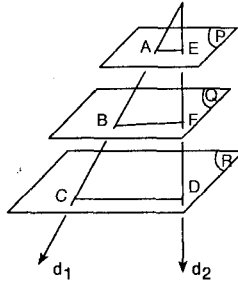
4. İki düzlemin ölççek açısı 30°'dir. Bunlardan birinde bulunan ve kenar uzunluğu 10 br olan bir karenin diğer düzlemdeki izdüşümünün alanı kaç br²'dir?

A) 50 B) $50\sqrt{3}$ C) 75
 D) $75\sqrt{3}$ E) $100\sqrt{3}$

5. Şekildeki P, Q, R paralel düzlemleri arasındaki uzaklık eşit ve d₁ ve d₂ doğruları P, Q, R düzlemlerini sırasıyla (A, E), (B, F), (C, D) noktalarında kesmektedirler.

Buna göre;
 $\frac{|AE| + |CD|}{|BF|}$ oranı kaçtır?

A) 2 B) 3 C) $\frac{7}{2}$ D) 4 E) $\frac{9}{2}$



Şekildeki [PH], E düzlemine diktir.

$|BH| > |AH| > |DH| > |CH|$ ise a, b, c, d açı ölçüleri arasındaki sıralama aşağıdakilerden hangisidir?

- A) $a > c > d > b$ B) $a > c > b > d$
 C) $a > b > c > d$ E) $c > a > d > b$
 D) $c > d > a > b$

7. Bir P düzlemine, düzlemin farklı taraflarında bulunan iki noktanın uzaklığı 4 ve 8 br'dir. Bu iki nokta arasındaki uzaklık 15 br ise noktalarından düzleme çizilen dikmelerin düzlemi kestiği noktalar arasındaki uzaklık kaç br'dir?

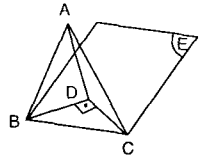
A) 8 B) 9 C) 19
 D) $5\sqrt{2}$ E) $6\sqrt{3}$

8. ABC eşkenar üçgeninin E düzlemindeki dik izdüşümü DBC dik üçgenidir.

Δ
 $A(DBC) = 36 \text{ br}^2$ ise

Δ
 $A(ABC)$ kaç br² dir?

A) 24 B) $24\sqrt{3}$ C) 36
 D) $36\sqrt{3}$ E) 42



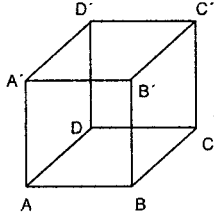
9. Farklı üç ayrıtının uzunlukları toplamı 12 br ve cisim köşegeninin uzunluğu 10 br olan dikdörtgenler prizmasının alanı kaç br²'dir?

A) 30 B) 32 C) 38 D) 40 E) 44

10. Cisim köşegeni x cm olan bir küpün alanının x cinsinden değeri aşağıdakilerden hangisidir?

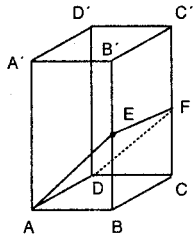
A) x² B) 2x² C) 3x² D) 4x² E) 5x²

11. Şekildeki küpün bir ayrıtı 2 cm'dir. Kenarları veya yüzeyleri kullanmak üzere IAC' 'i en az kaç br 'dir?



- A) $2+2\sqrt{2}$ B) $2\sqrt{2}$ C) $2\sqrt{5}$
D) $2+\sqrt{2}$ E) $4\sqrt{5}$

12. Şekilde tabanı kare olan dik prizma ve $ADFE$ dörtgeni verilmiştir.



$$IB'EI = IEBI, IC'FI = IFCI,$$

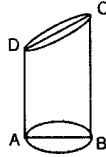
$IAB = 4 br$ ve $IB'B = 6 br$ ise $A(ADFE)$ kaç br^2 dir?

- A) 10 B) 15 C) 20 D) 25 E) 30

13. Bir silindirin yüksekliği sabit bırakılıp taban yarıçapı 3 kat artırılırsa yanal yüzey alanı kaç katına çıkar?

- A) 1 B) 2 C) 3 D) 4 E) 5

14. Şekildeki kesik dik silindirin taban yarıçapı 4 br, $IAD = 6 br$ ve $IBC = 8 br$ ise hacmi kaç πbr^3 tür?



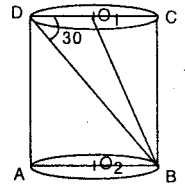
- A) 112 B) 100 C) 98 D) 94 E) 81

15. Bir silindirin içerisinde en büyük hacimli koni kesilip çıkarılıyor. Kalan kısmın hacminin koninin hacmine oranı nedir?

- A) 1 B) $\frac{5}{4}$ C) $\frac{4}{3}$ D) $\frac{3}{2}$ E) 2

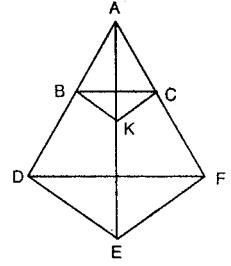
16. Şekildeki dik silindirde

$m(\hat{CDB}) = 30^\circ$, $A(\hat{DO_1B}) = \sqrt{3} br^2$ ise silindirin hacmi kaç πbr^3 tür?



- A) 4 B) 5 C) 6 D) 8 E) 10

17. Şekildeki (A, DEF) piramiti tabana paralel bir düzlemle kesiliyor. Kesik piramitin hacmi $52 br^3$ ve $2IAKI = IKEI$ ise (A, DEF) piramitinin hacmi kaç br^3 tür?



- A) 42 B) 48 C) 52 D) 54 E) 60

18. Taban çevresi 16 br ve yüksekliği $2\sqrt{2} br$ olan düzgün kare dik piramitin yanal alanı kaç br^2 dir?

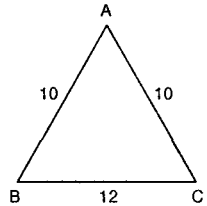
- A) $10\sqrt{3}$ B) $12\sqrt{3}$ C) $14\sqrt{3}$
D) $16\sqrt{3}$ E) $20\sqrt{3}$

19. Bir ayrıtı $3\sqrt{2} cm$ olan bir düzgün dört yüzlünün hacmi kaç cm^3 tür?

- A) 9 B) $10\sqrt{3}$ C) $\frac{14\sqrt{3}}{3}$
D) $12\sqrt{3}$ E) $\frac{20\sqrt{3}}{3}$

20. Şekildeki ikizkenar üçgende $IAB = IAC = 10 br$,

$IBC = 12 br$ ise ikizkenar üçgenin $[BC]$ 'ye ait yükseklik etrafında 90° döndürülmesiyle oluşan cismin hacmi kaç br^3 tür?



- A) 36π B) 42π C) 48π D) 52π E) 56π

TARAMA - 9

1. İki düzlemin arakesit doğrusuna dışardaki bir noktadan çizilen paralel doğru için aşağıdaki önermelerden hangisi doğrudur?

- A) Çizilen doğru daima düzlemlerin içindedir.
 B) Çizilen doğru düzlemleri keser.
 C) Çizilen doğru ile düzlemlerden biri dik kesişir.
 D) Çizilen doğru her iki düzleme de paralel olabilir.
 E) Çizilen doğrunun düzlemler üzerindeki dik izdüşümü bir noktadır.

2. 3 düzlem uzayı **en çok** kaç ayrık bölgeye ayırır?

- A) 4 B) 5 C) 6 D) 7 E) 8

3. Aşağıdakilerden hangisi kesinlikle düzlem belirtmeye yeterli **değildir**?

- A) Üç farklı doğrusal olmayan nokta
 B) Bir doğru ile dışındaki bir nokta
 C) Kesişen iki doğru
 D) Paralel iki doğru
 E) İki nokta

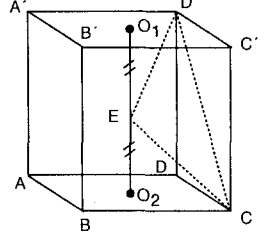
4. Kesişen P ve E düzlemlerinin ölçek açıları 30° 'dir. P düzlemi içerisindeki bir kenarı 3 br olan bir eşkenar üçgenin E düzlemi üzerindeki dik izdüşümünün alanı kaç br^2 dir?

- A) $\frac{9}{8}$ B) $\frac{3}{2}$ C) $\frac{27}{8}$ D) $\frac{27}{4}$ E) $\frac{27}{2}$

5. Bir dikdörtgenler prizmasının ayrıtları a, b, c'dir. $a.b = 6 br^2$, $a.c = 8 br^2$, $b.c = 12 br^2$ ise **prizmanın cisim köşegeni kaç br'dir?**

- A) 5 B) $\sqrt{29}$ C) $\sqrt{31}$
 D) $\sqrt{37}$ E) $3\sqrt{5}$

6. Şekildeki küpte; O_1 , $A'B'C'D'$ karesinin O_2 , ABCD karesinin ağırlık merkezleridir. $IAI = 2 br$, $IO_1, EI = IO_2EI$ ise $\Delta A(ECD)$ kaç br^2 'dir?

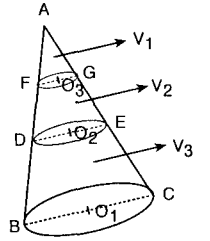


- A) $\sqrt{2}$ B) $2\sqrt{2}$ C) $3\sqrt{2}$ D) $3\sqrt{3}$ E) 4

7. Bir kenarı $3\sqrt{2}$ br olan düzgün sekizyüzlünün hacmi kaç br^3 'tür?

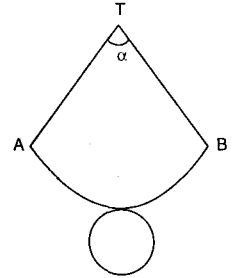
- A) 24 B) 28 C) 32 D) 36 E) 40

8. Şekildeki dik koni tabana paralel iki düzlem ile kesiliyor. V_1 , V_2 , V_3 bulundukları bölgelerin hacimlerini belirttiğine göre $IAFI = IFDI = IDBI$ ve $\frac{V_1 + V_2}{V_3 - V_1}$ oranı kaçtır?



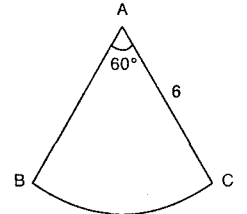
- A) $\frac{1}{2}$ B) $\frac{7}{19}$ C) $\frac{8}{19}$ D) $\frac{1}{3}$ E) $\frac{4}{9}$

9. Şekilde, bir dik koninin açılımı verilmiştir. Yanal yüz alanı taban alanının 2 katına eşit ise α kaç derecedir?



- A) 90 B) 100 C) 105 D) 175 E) 180

10. Şekildeki 60° 'lik merkez açıya sahip daire dilimi şeklinde levha bükülerek bir dik koni yapılacaktır. **Koninin hacmi kaç πbr^3 olur?**



- A) $\frac{\sqrt{29}}{3}$ B) $\frac{\sqrt{33}}{3}$ C) $\frac{\sqrt{35}}{3}$ D) $\frac{\sqrt{37}}{3}$ E) $\frac{\sqrt{39}}{3}$

11. Alanı ve hacmi sayıca birbirine eşit olan bir kürenin içine yerleştirilebilecek en büyük hacimli küpün alanı kaç br^2 dir?

A) 36 B) 42 C) 48 D) 56 E) 72

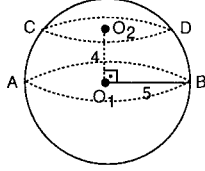
12. Yarıçapı 10 cm olan bir kürenin merkezinden 8 cm uzaklıkta alınan kesitinin alanı kaç cm^2 dir?

A) 18π B) 24π C) 28π D) 36π E) 42π

13. Taban yarıçapı r olan bir dik silindirin içine yarıçapı r olan üç tane küre birbirlerine ve kapaklara teğet olacak şekilde yerleştiriliyor. Silindirin hacmi bir kürenin hacminin kaç katıdır?

A) 4,5 B) 4 C) 3,5 D) 3 E) 2,5

14. Şekildeki O_1 merkezli 5 br yarıçaplı küre, merkezden 4 br uzaklıktaki bir noktadan bir düzlemlle kesiliyor. Tepe noktası küre üzerinde olan O_2 merkezli daireyi taban kabul eden en büyük hacimli koninin hacmi V_1 , tepe noktası küre üzerinde olan O_2 merkezli daireyi taban kabul eden en küçük hacimli koninin hacmi V_2 ise $\frac{V_1}{V_2}$ oranı kaçtır?

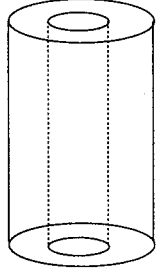


A) 9 B) 8 C) 7 D) 6 E) 5

15. Bir kürenin merkezinden 2 cm uzaklıktaki kesitinin alanı $3\pi cm^2$ ise kürenin hacmi kaç cm^3 tür?

A) $\frac{26\sqrt{7}\pi}{3}$ B) $9\sqrt{7}\pi$ C) $\frac{28\sqrt{7}\pi}{3}$
D) $\frac{29\sqrt{7}\pi}{3}$ E) $10\sqrt{7}\pi$

16. İç içe geçirilmiş ve yükseklikleri eşit, dik silindirlerin yarıçapları oranı $\frac{1}{2}$ dir. İki silindir arasında kalan bölge su ile dolduruluyor ve içteki silindirin tabanına çok yakın bir yerden bir delik açılıyor. Su içteki silindirde ne kadar yüksekliğe ulaşır?



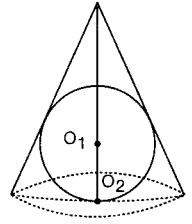
(Silindirlerin yükseklikleri h)

A) $\frac{3h}{4}$ B) $\frac{h}{3}$ C) $\frac{h}{2}$ D) $\frac{h}{4}$ E) $\frac{2h}{5}$

17. Bir kare dik piramitin yan yüzleri eşkenar üçgendir. Piramitin yüksekliği $2\sqrt{2}$ cm ise hacmi kaç cm^3 tür?

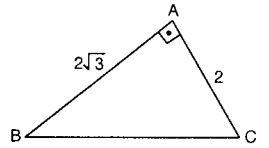
A) $10\sqrt{2}$ B) $\frac{15\sqrt{2}}{2}$ C) $\frac{32\sqrt{2}}{3}$
D) $\frac{134\sqrt{2}}{3}$ E) $12\sqrt{2}$

18. Şekilde taban yarıçapı $2\sqrt{3}$ br, yüksekliği 6 br olan bir dik koninin içine tabana ve yan yüzlerine teğet olacak biçimde bir küre yerleştirilmiştir. O_1 merkezli kürenin hacmi kaç πbr^3 tür?



A) $\frac{32\pi}{3}$ B) 10π C) 9π D) $\frac{26\pi}{3}$ E) $\frac{25\pi}{3}$

19. Şekilde $IAB = 2\sqrt{3}$ br, $IAC = 2$ br ise $\triangle ABC$ dik üçgeninin $[BC]$ etrafında 360° döndürülmesiyle oluşan cismin hacmi kaç πbr^3 tür?



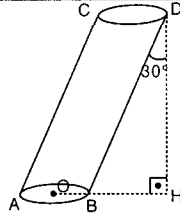
A) 2 B) 3 C) 4 D) 5 E) 6

20. Bir kenarı 2 br olan bir eşkenar üçgenin, bir kenarı etrafında 360° döndürülmesiyle oluşan cismin hacmi kaç br^3 tür?

A) π B) 2π C) 3π D) 4π E) 5π

TARAMA - 10

1. Şekildeki eğik silindirin taban yarıçapı 3 br, $m(\angle BDH) = 30^\circ$ ve $IBHI = 2\sqrt{3}$ br ise silindirin hacmi kaç br³ tür?

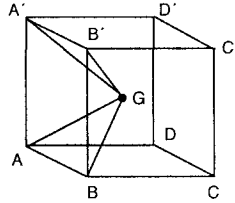


A) 42π B) 46π C) 48π D) 52π E) 54π

2. Bir eğik prizmanın taban alanı ile dikkesit alanı oranı $\sqrt{2}$ ise bir yan ayrıttının prizmanın yüksekliği ile yaptığı açı kaç derecedir?

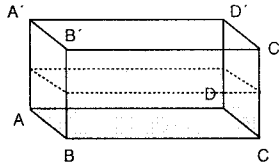
A) 15 B) 30 C) 45 D) 60 E) 75

3. Şekildeki küpte; G, cisim köşegenlerinin kesişim noktası ise küpün hacmi, $(G, ABB'A')$ piramitinin hacminin kaç katıdır?



A) 3 B) 4 C) 5 D) 6 E) 7

4. Şekildeki dikdörtgenler prizmasının içine bir miktar su konulmuştur.

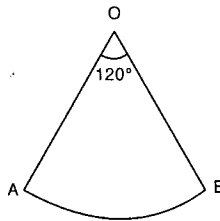


$IBI = 3$ br,

$IBC = 6$ br, $IB'BI = 4$ br ve suyun yüksekliği 2 br'dir. Prizma $ABB'A'$ yüzeyi taban olacak şekilde yatırılırsa suyun yüksekliği kaç br olur?

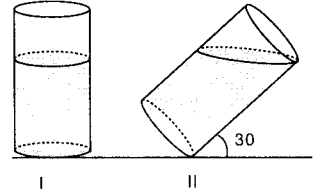
A) 1 B) 2 C) 3 D) 4 E) 5

5. Şekilde 120° lik merkez açıya sahip daire dilimi verilmiştir. $[OA]$ ile $[OB]$ çakışacak şekilde bir koni oluşturulduğunda; oluşan koninin yüksekliğinin; taban yarıçapına oranı kaçtır?



A) 2 B) $2\sqrt{2}$ C) $2\sqrt{3}$
D) 3 E) $3\sqrt{2}$

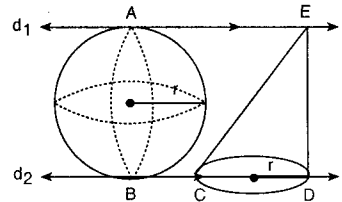
6. I. şekilde; taban yarıçapı 6 br ve yüksekliği $18\sqrt{3}$ br olan bir silindir şeklindeki kap verilmiştir. Kabin içinde bir miktar su bulunmaktadır.



II. şekildeki aynı kap tabanla 30 derecelik açı yapacak şekilde yatırılıyor ve su hiç dökülmeden kabin ağızına dayanıyor. Yukarıdaki bilgilere göre ilk durumda suyun yüksekliği kaç br'dir?

A) 8 B) $8\sqrt{3}$ C) $10\sqrt{3}$
D) 12 E) $12\sqrt{3}$

- 7.



Şekilde d_1 ve d_2 paralel doğruları arasına r yarıçaplı küre ve eğik koni yerleştirilmiştir. Kürenin hacminin, koninin hacmine oranı kaçtır?

A) 1 B) 2 C) 3 D) 4 E) 5

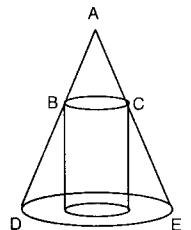
8. Taban yarıçapı 3 br olan bir silindirin içine aynı yarıçapa sahip bir küre silindirin alt ve üst tabanına değecek biçimde konuluyor ve silindir su ile dolduruluyor. Küre alındığı zaman suyun yüksekliği kaç br azalır?

A) 2 B) 3 C) 4 D) 5 E) 6

9. Hacmi $9\sqrt{2}$ br³ olan düzgün sekiz yüzlünün alanı kaç br² dir?

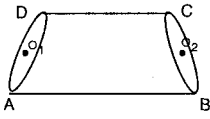
A) $18\sqrt{3}$ B) $16\sqrt{3}$ C) $12\sqrt{3}$
D) $9\sqrt{3}$ E) $6\sqrt{3}$

10. Şekildeki koninin içine; taban yarıçapı, koninin taban yarıçapının yarısı kadar olan bir silindir yerleştiriliyor. Buna göre silindirin hacminin, koninin hacmine oranı kaçtır?



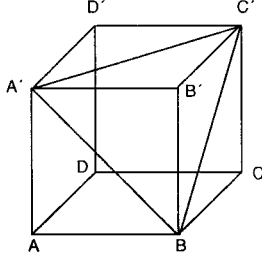
A) $\frac{3}{8}$ B) $\frac{3}{7}$ C) $\frac{1}{2}$ D) $\frac{3}{5}$ E) $\frac{3}{4}$

11. Şekildeki O_1 ve O_2 merkezli kesitlerin çapları eşit ve 10 br, $[DC] \parallel [AB]$, $ICDI = 10$ br, $IABI = 22$ br ise **cismin hacmi kaç br^3 tür?**



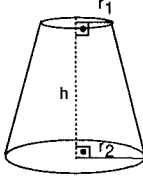
- A) 124π B) 148π C) 196π
D) 224π E) 256π

12. Şekildeki küpün bir kenarı 6 br ise B' noktasının, $A'BC'$ üçgenine olan uzaklığı kaç br'dir?



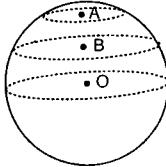
- A) $\sqrt{3}$ B) $12\sqrt{2}$ C) $2\sqrt{3}$
D) 3 E) $3\sqrt{2}$

13. Şekilde; $r_1 = 2$ br, $r_2 = 6$ br ve $h = 4$ br ise **cismin hacmi kaç br^3 tür?**



- A) 80π B) $\frac{226\pi}{3}$ C) 70π
D) $\frac{208\pi}{3}$ E) $\frac{196\pi}{3}$

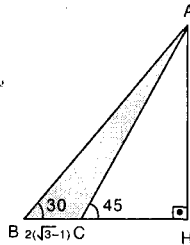
14. Şekildeki O merkezli küre, birbirine paralel iki düzlemle kesiliyor. Oluşan kesitlerin merkezleri A ve B olmak üzere alanları oranı $\frac{1}{4}$ ve $IABI = IOBI$ ise



kürenin yarıçapının A merkezli dairenin yarıçapına oranı kaçtır?

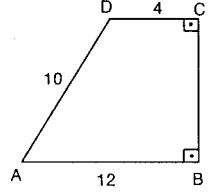
- A) $\sqrt{2}$ B) $\sqrt{3}$ C) 2 D) $\sqrt{5}$ E) $\sqrt{6}$

15. Şekilde;
 $[AH] \perp [BH]$, $m(\hat{ABH}) = 30^\circ$,
 $m(\hat{ACH}) = 45^\circ$,
 $IBCI = 2(\sqrt{3} - 1)$ br ise
ABC üçgeninin $[AH]$ dikmesi etrafında 360° döndürülmesiyle oluşacak cismin hacmi kaç br^3 tür?



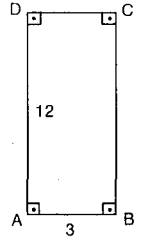
- A) 4π B) $\frac{14\pi}{3}$ C) 5π D) $\frac{16\pi}{3}$ E) $\frac{17\pi}{3}$

16. Şekildeki dik yamukta
 $IDCI = 4$ br,
 $IADI = 10$ br,
 $IABI = 12$ br ise **yamuğun $[AB]$ etrafında 180° döndürülmesiyle oluşacak cismin hacmi kaç br^3 tür?**



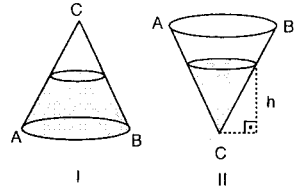
- A) 120π B) 110π C) 100π D) 90π E) 80π

17. Şekildeki dikdörtgende $IABI = 3$ br, $IADI = 12$ br ise **dikdörtgenin $[BC]$ etrafında 150° döndürülmesiyle oluşacak cismin hacmi kaç πbr^3 tür?**



- A) 30 B) 32 C) 36 D) 40 E) 45

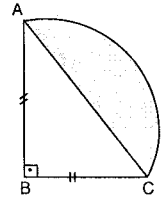
18. I. şekilde; taban yarıçapı 4 br yüksekliği 6 br olan bir koninin içinde 3 br yüksekliğinde su bulunuyor.



II. şekilde aynı koni ters çevriliyor. **Buna göre II. şekilde koninin içindeki suyun h yüksekliği kaç br'dir?**

- A) $\sqrt[3]{7}$ B) $2\sqrt[3]{7}$ C) $3\sqrt[3]{7}$
D) $4\sqrt[3]{7}$ E) $\frac{4\sqrt[3]{7}}{3}$

19. Şekilde, B merkezli çeyrek daire dilimi verilmiştir. $IABI = IBCI = 2$ br ise **taralı alanın $[AB]$ etrafında 90° döndürülmesiyle oluşacak cismin hacmi kaç br^3 tür?**



- A) $\frac{\pi}{3}$ B) $\frac{2\pi}{3}$ C) π D) $\frac{3\pi}{2}$ E) 2π

20. Hacimleri oranı t olan iki kürenin, alanları oranının t cinsinden değeri nedir?

- A) $\sqrt[3]{t^2}$ B) t C) $\sqrt[3]{t}$ D) t^2 E) t^3

ÖSS DENEME SINAVI -1

1. $[OC; \hat{AOD}$ nın

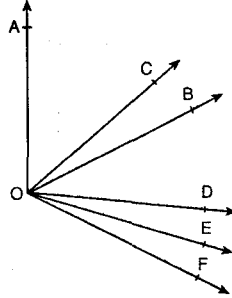
$[OB; \hat{AOE}$ nın

$[OD; \hat{BOF}$ nın

açıortayı ,

$m(\hat{COB}) = 9^\circ$ ise

$m(\hat{DOE})$ kaç derecedir?



- A) 13 B) 18 D) 21 D) 23 E) 25

2. ABC üçgeninde;

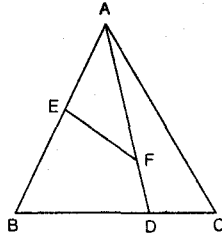
$IAI = IBCI$,

$IAI = IBDI$,

$IAEI = IEFI$ ve

$m(\hat{BEF}) = 80^\circ$ ise

$m(\hat{ACB})$ kaç derecedir?



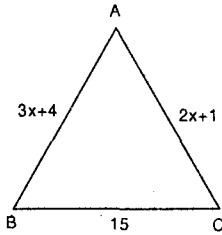
- A) 40 B) 50 C) 60 D) 70 E) 80

3. Şekilde

$IAI = (3x + 4)$ br,

$IAI = (2x + 1)$ br ve

$IBC I = 15$ ise ABC üçgeninin çevresinin tamsayı olarak en büyük değeri kaçtır?



- A) 70 B) 72 C) 75 D) 79 E) 80

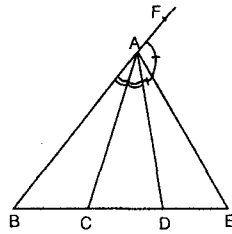
4. $m(\hat{BAC}) = m(\hat{CAD})$,

$m(\hat{DAE}) = m(\hat{EAF})$,

$IAI = IADI = 6$ br ve

$IAI = \frac{27}{2}$ br

ise $IDEI$ kaç br'dir?



- A) $\frac{26\sqrt{5}}{5}$ B) $5\sqrt{5}$ C) $4\sqrt{5}$
D) $\frac{13\sqrt{5}}{5}$ E) $\frac{12\sqrt{5}}{5}$

5. ABC üçgeninde;
G ağırlık merkezi

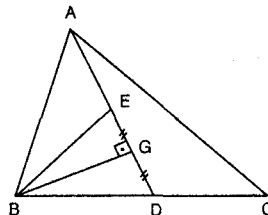
$m(\hat{BGA}) = 90^\circ$,

$IGDI = IGEI$,

$IAI = \sqrt{84}$ br,

$IBGI = \sqrt{20}$ br ve

$IBC I$ kaç br'dir?



- A) 9 B) 10 C) 12 D) 15 E) 16

6. ABC üçgeninde;

$[AH] \perp [BC]$,

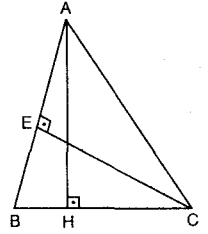
$[CE] \perp [AB]$,

$IBEI = 6$ br,

$IBHI = 4$ br ve

$IHCI = 8$ br ise

$IAEI$ kaç br'dir?



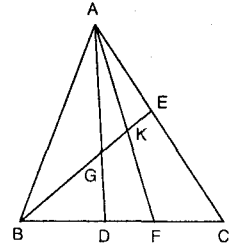
- A) 6 B) 5 C) 4 D) 3 E) 2

7. ABC üçgeninde, G ağırlık merkezi,

$2IDFI = IFCI$ ve

$IAKI = 6$ br ise

$IKFI$ kaç br'dir?



- A) 3 B) 4 C) $\frac{9}{2}$ D) 5 E) 6

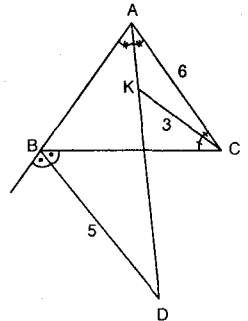
8. Şekilde $[AD]$, $[BD]$, $[CK]$ açıortay;

$IAI = 6$ br,

$IKCI = 3$ br,

$IBDI = 5$ br ise

$IAI = x$ kaç birimdir?



- A) 9 B) 10
C) 12 D) 14
E) 15

9. ABC üçgeninde

$3IAI = 2IDBI$,

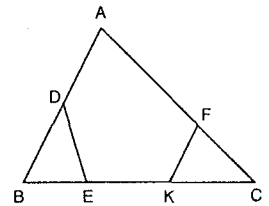
$2IBEI = IEKI = IKCI$ ve

$5IFCI = 3IAFI$ ise

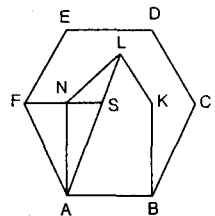
$\frac{\text{Alan}(\triangle FKC)}{\text{Alan}(\triangle DBE)}$ oranı

kaçtır?

A) $\frac{2}{3}$ B) $\frac{3}{4}$ C) $\frac{5}{4}$ D) $\frac{6}{5}$ E) $\frac{8}{7}$

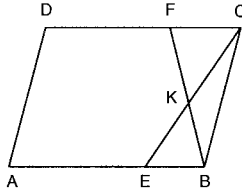


10. ABCDEF düzgün altıgen, ABKLN düzgün beşgendir. F, N, S ile A, S, L doğrusaldır. NSL açısının ölçüsü kaç derecedir?



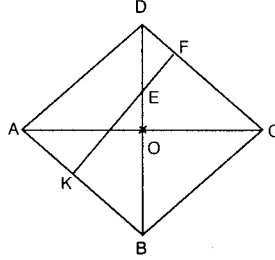
- A) 120 B) 128 C) 132 D) 140 E) 150

11. ABCD paralelkenar,
 $5IEI = 4IFI = IABI$
 Δ
 ve $A(KBC) = 5 \text{ br}^2$ ise
paralelkenarın alanı
kaç br^2 'dir?



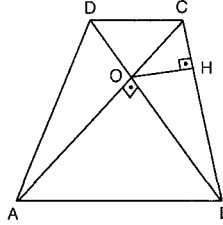
A) 90 B) 84 C) 80 D) 76 E) 70

12. ABCD eşkenar
 dörtgen,
 $3IDFI = IFCI$,
 $5IAKI = 2IKBI$ ve
 $IDEI = 14 \text{ br}$ ise
IOBI kaç br 'dir?



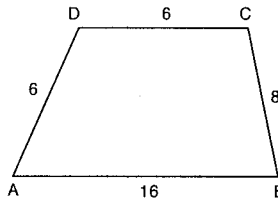
A) 20 B) 22 C) 24 D) 26 E) 27

13. ABCD ikizkenar
 yamuğunda,
 $[AC] \perp [BD]$,
 $[OH] \perp [BC]$,
 $IDCI = 6 \text{ br}$ ve
 $IABI = 12 \text{ br}$
 ise **IOHI kaç br 'dir?**



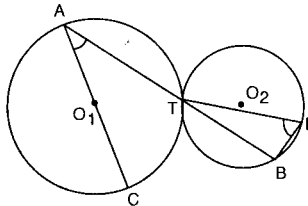
A) $\frac{3\sqrt{10}}{4}$ B) $\frac{6\sqrt{10}}{5}$ C) $2\sqrt{10}$
 D) $\frac{5\sqrt{10}}{2}$ E) $\frac{8\sqrt{10}}{3}$

14. ABCD
 yamuğunda,
 $IABI = 16 \text{ br}$,
 $IBCI = 8 \text{ br}$,
 $ICDI = 6 \text{ br}$ ve
 $IADI = 6 \text{ br}$
 ise **$A(ABCD)$ kaç
 br^2 'dir?**



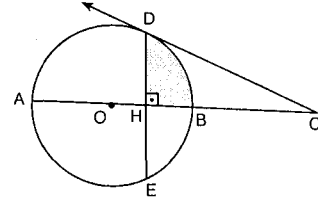
A) 26,4 B) 48,8 C) 50,2
 D) 52,8 E) 54

15. Şekilde O_1 ve
 O_2 merkezli
 çemberler T
 noktasında
 dıştan teğettir.
 $m(\hat{TDB}) = 52^\circ$
 ise **$m(\hat{CAT})$ kaç
 derecedir?**



A) 34 B) 36 C) 38 D) 44 E) 52

16.



O merkezli çemberde; $[CD]$ teğet,
 $[DE] \perp [AC]$, $ICDI = IDEI = 12\sqrt{3} \text{ br}$ ise **taralı alan**
kaç br^2 dir?

A) $18\pi - 9\sqrt{3}$ B) $24\pi - 18\sqrt{3}$
 C) $18\pi - 12\sqrt{3}$ D) $12\pi - 4\sqrt{3}$
 E) $6\pi - 2\sqrt{3}$

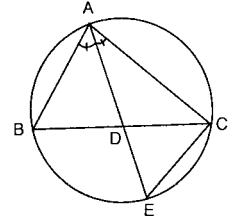
17. Şekilde,

$$m(\hat{BAE}) = m(\hat{DAC})$$

$$IBDI = 4 \text{ br}$$

$$IACI = 12 \text{ br}$$

$$IADI = 8 \text{ br}$$
 ise **ICEI kaç
 br 'dir?**



A) 6 B) 5 C) $2\sqrt{5}$
 D) $3\sqrt{2}$ E) $2\sqrt{3}$

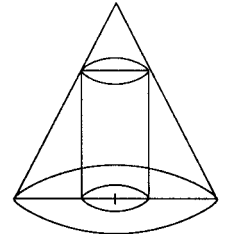
18. $A(-2, 3)$ noktasının $x - y + 4 = 0$ doğrusuna göre
 simetrisinin orjine uzaklığı kaç br 'dir?

A) $2\sqrt{3}$ B) $\sqrt{10}$ C) 3 D) $2\sqrt{2}$ E) $\sqrt{5}$

19.
$$\left. \begin{aligned} x - (3\sqrt{3} + 2)y - 5 &= 0 \\ 2x + 2y + 1 &= 0 \end{aligned} \right\}$$
 doğrularının kesim
 noktasından geçen Ox eksenine pozitif yönde
 30° 'lik açı yapan doğru denklemi nedir?

A) $x - \sqrt{3}y + 1 = 0$ B) $x - \sqrt{3}y + 2 = 0$
 C) $x - \sqrt{3}y + 5 = 0$ D) $3x - 3\sqrt{3}y - 4 = 0$
 E) $3x - 3\sqrt{3}y + 5 = 0$

20. Dik koni ile dik silindirin
 taban yarıçapları oranı 4'tür.
Hacimleri oranı kaçtır?



A) $\frac{32}{3}$ B) $\frac{64}{9}$ C) $\frac{16}{3}$ D) $\frac{80}{9}$ E) $\frac{92}{9}$

ÖSS
DENEME SINAVI -2

1. Şekilde
[BA // [NM]
[CB // [FK]
[CD // [KE]

$$m(\hat{ABC}) = 28^\circ$$

$$m(\hat{FKE}) = 72^\circ \text{ ise}$$

(F^Δ_{DN}) kaç derecedir?

- A) 68 B) 72 C) 76 D) 78 E) 80

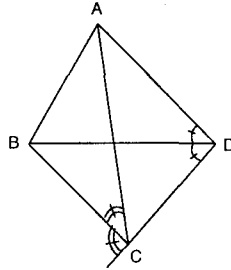
2. Şekildeki ABC üçgeninde
 $IAEI = IECI$,
 $IADI = 15 \text{ br}$,
 $IBDI = 3 \text{ br}$,
 $IBCI = 12 \text{ br}$ ve

$$m(\hat{ADE}) \approx 17^\circ \text{ ise}$$

$m(\hat{ABC}) = \alpha$ kaç derecedir?

- A) 24 B) 32 C) 34 D) 38 E) 42

3. Şekilde; [DB], [CB]
açıortay IABl = 8 br ve
IACl = 10 br ise
**ABC üçgeninin çevresi
tamsayı olarak en az
kaç br'dir?**



- A) 30 B) 28 C) 26 D) 25 E) 24

4. ABC üçgeninde;
|AB| = |DC|,

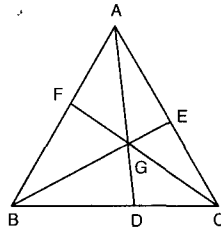
$$m(\hat{BAC}) = 70^\circ \text{ ve}$$

$$m(\hat{ACB}) = 35^\circ \text{ ise}$$

$m(\hat{BDC})$ kaç derecedir?

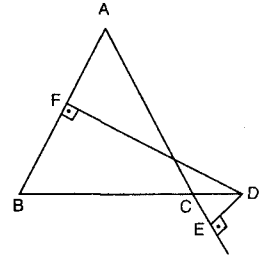
- A) 110 B) 106 C) 102 D) 98 E) 92

5. ABC üçgeninde;
G ağırlık merkezi,
 $IBEI = IADI = 9$ br ve
 $ICFI = 15$ br ise
IACI kaç br'dir?



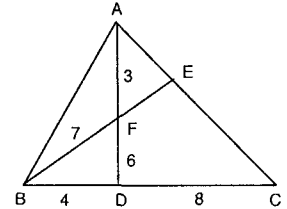
- A) $10\sqrt{3}$ B) 17 C) $2\sqrt{65}$
D) 16 E) $2\sqrt{59}$

6. ABC üçgeninde,
 $|AB| = |AC| = 17$ br,
 $|DF| = 11$ br ve
 $|DE| = 3$ br
 ise $|BC|$ kaç br'dir?



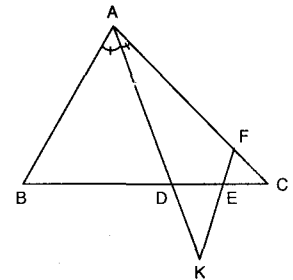
- A) $2\sqrt{14}$ B) $2\sqrt{15}$ C) $2\sqrt{17}$
D) $6\sqrt{2}$ E) $4\sqrt{5}$

7. ΔABC de
 $2|AF| = |FD| = 6$ br
 $2|BD| = |DC| = 8$ br
 ve $|BF| = 7$ br ise
 $|FE|$ kaç br'dir?



- A) $\frac{3}{2}$ B) 2 C) $\frac{5}{2}$ D) 3 E) $\frac{7}{2}$

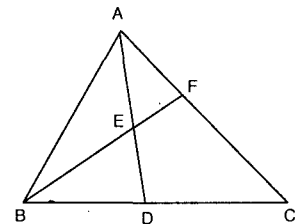
8. Şekilde; [AK]
açıortay
[KF] // [AB],
|AB| = 6 br
|AF| = 7 br,
|FC| = 3 br ise
|KE| kaç br'dir?



- A) 3 B) 4 C) $\frac{24}{5}$ D) $\frac{26}{5}$ E) 6

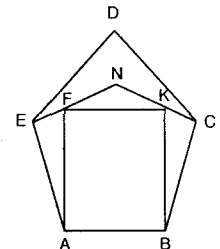
9. ABC üçgeninde;
[AD] kenarortay
 $2|AF| = |FC|$,

Δ
A(AEF) = 4 br² ise
ABC üçgeninin
alanı kaç br²dir?



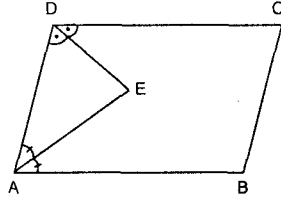
- A) 48 B) 44 C) 42 D) 40 E) 36

10. ABCDE düzgün beşgen, ABKF karedir. E, F, N noktaları ile N, K, C noktaları doğrusal olduğuna göre, **FNK açısının ölçüsü kaç derecedir?**



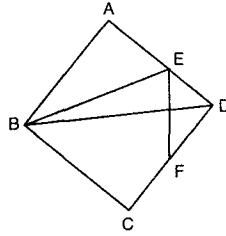
- A) 142 B) 148 C) 152 D) 156 E) 162

11. ABCD paralelkenarında [DE], [AE] açıortaylar, $IDEI = 5$ br, $IAEI = 10$ br, $ABI = 12$ br ve ise **ABCD paralelkenarının alanı kaç br²dir?**



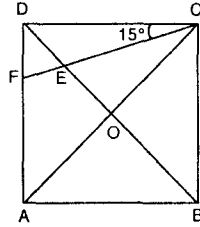
- A) $12\sqrt{5}$ B) $24\sqrt{5}$ C) $36\sqrt{5}$
D) $48\sqrt{5}$ E) $96\sqrt{5}$

12. ABCD eşkenar dörtgen, $2|DEI| = |AEI|$, $3|DFI| = |FCI|$, $\Delta A(DEF) = 2$ br² ise **$\Delta A(ABE)$ kaç br²dir?**



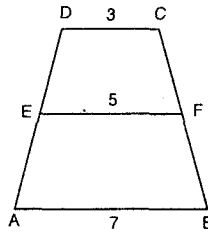
- A) 8 B) 12 C) 16 D) 20 E) 24

13. ABCD karesinde $m(\hat{DCF}) = 15^\circ$ ve $IDEI = 2\sqrt{3}$ br ise **$A(ABCD)$ kaç br²dir?**



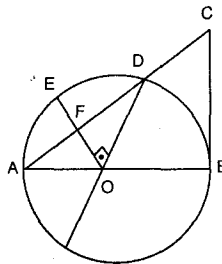
- A) $36 + 36\sqrt{3}$ B) $72 + 36\sqrt{3}$
C) $72 + 18\sqrt{3}$ D) $36 + 24\sqrt{3}$
E) $72 + 72\sqrt{3}$

14. ABCD yamuğunda; $[AB] \parallel [CD] \parallel [EF]$, $|ABI| = 7$ br, $|IEFI| = 5$ br, $|IDCI| = 3$ br ise **$\frac{A(EFCD)}{A(ABFE)}$ oranı kaçtır?**



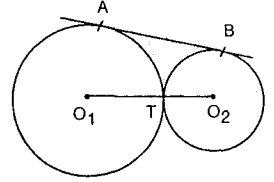
- A) $\frac{1}{4}$ B) $\frac{3}{4}$ C) $\frac{2}{5}$ D) $\frac{3}{5}$ E) $\frac{2}{3}$

15. O merkezli çemberde; [CB] teğet, $3|CDI| = |ADI|$, $[OE] \perp [OD]$ ve $|OBI| = 12$ br ise **$|FDI|$ kaç br'dir?**



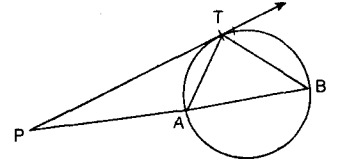
- A) $4\sqrt{3}$ B) $6\sqrt{2}$ C) $8\sqrt{2}$
D) $8\sqrt{3}$ E) $9\sqrt{2}$

16. T noktasında dıştan teğet olan O_1, O_2 merkezli çemberlerinin ortak teğeti [AB]'dir. $|O_1T| = 3$ br, $|O_2T| = 1$ br ise **taralı alan kaç br²dir?**



- A) $4\sqrt{3} - \frac{11\pi}{6}$ B) $4\sqrt{3} - \frac{7\pi}{6}$
C) $4\sqrt{3} - \frac{3\pi}{2}$ D) $8\sqrt{3} - \frac{7\pi}{6}$
E) $2\sqrt{3} - \frac{3\pi}{2}$

17. Şekilde P, A, B doğrusal [PT] teğet, $|PTI| = 12$ br, $|PAI| = 8$ br ve $|ATI| = 6$ br ise **$|BTI|$ kaç br'dir?**

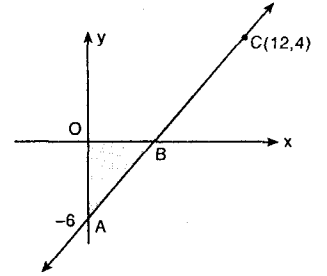


- A) $6\sqrt{2}$ B) 8 C) 9 D) $8\sqrt{2}$ E) 12

18. $A(2, 4)$, $B(4, 2)$, $C(1, y)$ veriliyor. $|CAI| + |CB I|$ toplamı en küçük ise **y kaçtır?**

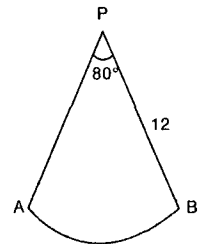
- A) 3 B) $\frac{7}{2}$ C) 4 D) $\frac{13}{3}$ E) $\frac{14}{3}$

19. Şekilde $A(0, -6)$ ve $C(12, 4)$ ise **$\Delta A(AOB)$ kaç br²dir?**



- A) 24 B) $\frac{54}{5}$ C) $\frac{98}{5}$ D) 20 E) $\frac{108}{5}$

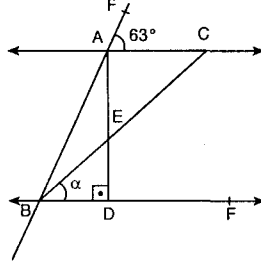
20. Açık şekli verilen dik koninin yüksekliği kaç br'dir?



- A) $\frac{5\sqrt{33}}{3}$ B) $\frac{4\sqrt{11}}{3}$ C) $\frac{8\sqrt{22}}{3}$
D) $\frac{4\sqrt{77}}{3}$ E) $\frac{11\sqrt{11}}{3}$

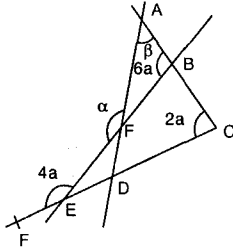
ÖSS DENEME SINAVI -3

1. $[AD] \perp [BF]$
 $[AC] \parallel [BF]$
 $m(\widehat{FAC}) = 63^\circ$
 $ICEI = 2IABI$ ise
 $m(\widehat{CBD}) = \alpha$ kaç derecedir?



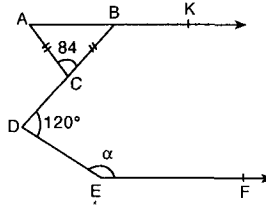
A) 21 B) 20 C) 19 D) 18 E) 17

2. Şekilde
 $m(\widehat{ABE}) = 6a$,
 $m(\widehat{BCE}) = 2a$,
 $m(\widehat{BEF}) = 4a$,
 $m(\widehat{FAB}) = \beta$ ve
 $m(\widehat{AFE}) = \alpha$ ise
 $\alpha - \beta$ kaç derecedir?



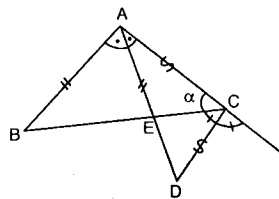
A) 90 B) 100 C) 120 D) 135 E) 150

3. $[AK] \parallel [EF]$
 $IACI = IBCI$
 $m(\widehat{ACB}) = 84^\circ$
 $m(\widehat{BDE}) = 120^\circ$
 $m(\widehat{DEF}) = \alpha$ kaç derecedir?



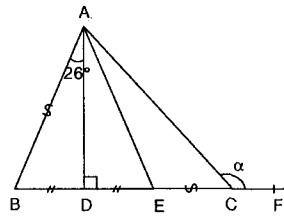
A) 98 B) 108 C) 120 D) 122 E) 134

4. ABC üçgeninde
 $IABI = IAEI$,
 $ICAI = ICDI$
 $[CD], [AD]$ açıortay olduğuna göre
 $m(\widehat{ACB}) = \alpha$ nın tümüleri kaç derecedir?



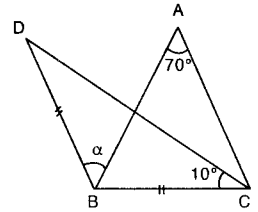
A) 18 B) 36 C) 54 D) 72 E) 78

5. ABC üçgen,
 $IABI = IECI$
 $IBDI = IDEI$
 $m(\widehat{BAD}) = 26^\circ$ ise
 $m(\widehat{ACF}) = \alpha$ kaç derecedir?



A) 102 B) 112 C) 122 D) 132 E) 148

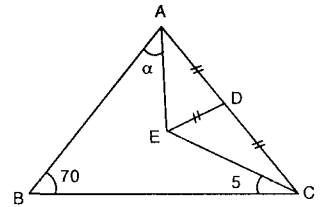
6. Şekilde
 $m(\widehat{BAC}) = 70^\circ$,
 $m(\widehat{DCB}) = 10^\circ$,
 $IDBI = IBCI$ ve
 $IABI = IACI$ olduğuna göre



$m(\widehat{DBA}) = \alpha$ kaç derecedir?

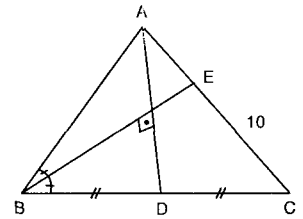
A) 75 B) 80 C) 85 D) 90 E) 105

7. ABC üçgen,
 $IADI = IDC I = IDEI$,
 $m(\widehat{B}) = 70^\circ$ ve
 $m(\widehat{ECB}) = 5^\circ$ ise
 $m(\widehat{BAE}) = \alpha$ kaç derecedir?



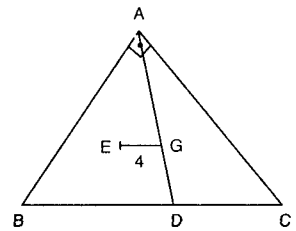
A) 10 B) 15 C) 20 D) 25 E) 30

8. ABC üçgeninde
 $[AD] \perp [BE]$
 $[BE]$ $\widehat{AC}$ nın açıortayı
 $IDBI = IDC I$,
 $IECI = 10$ br ise
 $IAEI$ kaç birimdir?



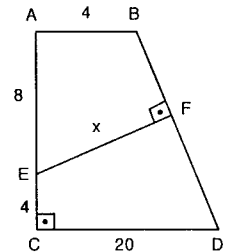
A) 3 B) 4 C) 5 D) 6 E) 7

9. ABC üçgeninde
 $m(\widehat{BAC}) = 90^\circ$,
 ΔG ABC'nin, ΔABD nin ağırlık merkezi ve $IEGI = 4$ br ise
 $IADI$ kaç birimdir?



A) 10 B) 12 C) 14 D) 16 E) 18

10. ABCD dik yamuktur.
 $[EF] \perp [BD]$
 $IABI = IECI = 4$ br
 $IAEI = 8$ br
 $ICDI = 20$ br olduğuna göre $IEFI = x$ kaç birimdir?



A) 4,2 B) 5,6 C) 6,2 D) 7,2 E) 8,8

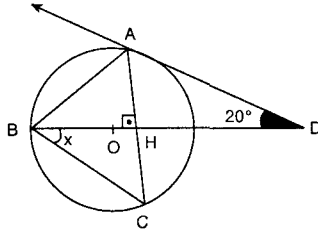
11. [DA O merkezli çembere A noktasında teğettir.

$$m(\hat{ADB}) = 20^\circ$$

$$[AC] \perp [BH] \text{ ise}$$

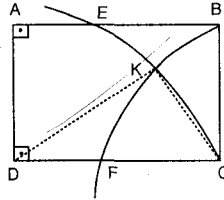
$$m(\hat{DBC}) = x$$

kaç derecedir?



- A) 25 B) 30 C) 35 D) 40 E) 45

12. ABCD dikdörtgen
IAB = 16 br
IBC = 4 br D merkezli
CE yayı ve C merkezli
BF yayı K noktasında
kesiştir. ΔCKD kaç
birimkaredir?

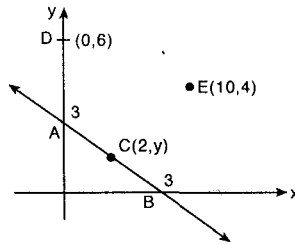


- A) $5\sqrt{7}$ B) $10\sqrt{6}$ C) $11\sqrt{3}$
D) $6\sqrt{7}$ E) $12\sqrt{7}$

13. $x - 3y - 16 = 0$
 $-3x + 9y - 12 = 0$ doğruları arasındaki uzaklık
kaç birimdir?

- A) $\sqrt{5}$ B) $\sqrt{10}$ C) $2\sqrt{10}$
D) $3\sqrt{5}$ E) $4\sqrt{5}$

14. Şekilde $x + y = 3$ doğrusu üzerinde bulunan C(2, y) noktasından geçen ve DE doğrusuna dik olan doğrunun denklemi aşağıdakilerden hangisidir?



- A) $y - 5x + 9 = 0$ B) $5y + x + 9 = 0$
C) $5y - x - 9 = 0$ D) $y - 9x + 5 = 0$
E) $y - 5x - 9 = 0$

15. $4x^2 + 4y^2 + 16x - 12y - 7m = 0$ ifadesinin bir çember belirtmesi için m ne olmalıdır?

- A) $m < \frac{25}{7}$ B) $m > \frac{25}{7}$ C) $m < -\frac{25}{7}$
D) $m > -\frac{25}{7}$ E) $m > -\frac{15}{7}$

16. A(-2, 6), B(6, 8) noktaları veriliyor. [AB] yi kesiş kabul eden çemberlerin merkezlerinin geometrik yeri aşağıdakilerden hangisidir?

- A) $y + 3x - 15 = 0$ B) $y + 4x - 15 = 0$
C) $4x - y + 20 = 0$ D) $4y - x + 20 = 0$
E) $4y + x + 15 = 0$

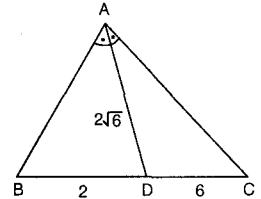
17. Bir dikdörtgenler prizmasının ayrıtları arasında $x^{-1} + y^{-1} + z^{-1} = \frac{1}{16}$ bağıntısı vardır. Bu prizmanın bütün alanı 32 br^2 olduğuna göre hacmi kaç birim küptür?

- A) 242 B) 256 C) 289 D) 320 E) 324

18. Bir dik koninin yüksekliğinin taban yarıçapına oranı $\frac{15}{8}$ ise yanal alanının taban alanına oranı kaçtır?

- A) $\frac{8}{17}$ B) $\frac{8}{15}$ C) $\frac{115}{8}$ D) $\frac{17}{8}$ E) $\frac{17}{15}$

19. ABC üçgeninde [AD]
 $\hat{BAC}$ nın açıortayı,
 $IAD = 2\sqrt{6}$ br,
 $IDB = 2$ br ve
 $IDC = 6$ br ise $\cos \hat{A}$
kaçtır?



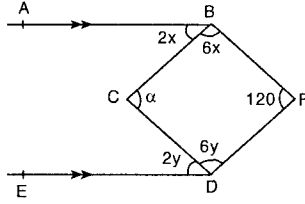
- A) $\frac{7}{9}$ B) $\frac{7}{10}$ C) $\frac{7}{11}$ D) $\frac{8}{9}$ E) $\frac{8}{11}$

20. $a = \cos 280^\circ$, $b = \tan \frac{12\pi}{5}$, $c = \cot \frac{11\pi}{6}$ ifadelerinin işaretleri sırasıyla aşağıdakilerden hangisidir?

- A) -, +, + B) +, -, - C) -, -, +
D) +, -, + E) +, +, -

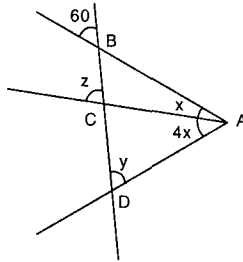
ÖSS DENEME SINAVI -4

1. Şekilde
[BA] // [DE]
 $m(\hat{ABC}) = 2x$
 $m(\hat{CDE}) = 2y$
 $m(\hat{CBF}) = 6x$
 $m(\hat{CDF}) = 6y$
 $m(\hat{BFD}) = 120^\circ$ ise $m(\hat{BCD}) = \alpha$ kaç derecedir?



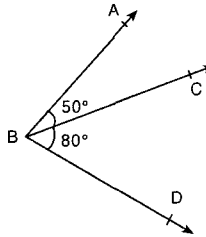
A) 30 B) 60 C) 70 D) 80 E) 90

2. Yandaki şekilde
 $y + z = 140^\circ$ ise z kaç derecedir?



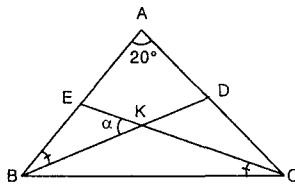
A) 50 B) 60 C) 70 D) 80 E) 90

3. Şekilde
 $m(\hat{ABC}) = 50^\circ$
 $m(\hat{CBD}) = 80^\circ$ ise $\hat{ABC}$ nin
açıortayı ile $\hat{ABD}$ nin
açıortayı arasında kalan
açının ölçüsü kaç derecedir?



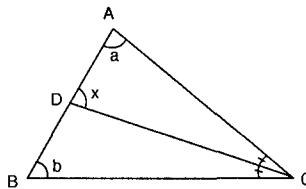
A) 25 B) 30 C) 35 D) 40 E) 45

4. ABC üçgen
[AB] = [AC],
 $m(\hat{BAC}) = 20^\circ$ ve
 $m(\hat{ABD}) = m(\hat{ECD})$
ise
 $m(\hat{EKB}) = \alpha$ kaç derecedir?



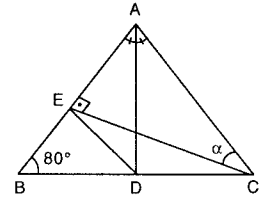
A) 30 B) 40 C) 50 D) 60 E) 80

5. ABC üçgen,
[CD] açıortay,
 $m(\hat{BAC}) = a^\circ$
 $m(\hat{ABC}) = b^\circ$,
 $a - b = 70^\circ$
ise x kaç derecedir?



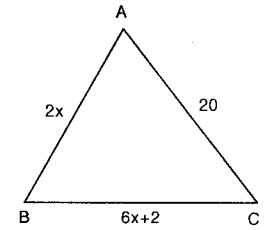
A) 55 B) 60 C) 65 D) 70 E) 75

6. ABC üçgeninde
[AD] açıortay,
[CE] ⊥ [AB],
IEDI = IBDI ve
 $m(\hat{ABC}) = 80^\circ$ ise
 $m(\hat{ECA}) = \alpha$ kaç derecedir?



A) 20 B) 30 C) 40 D) 50 E) 70

7. Şekildeki ABC
üçgeninde en büyük
açı A ve kenarlar birer
tamsayıdır. Buna göre
en uzun kenar en
çok kaç birimdir?

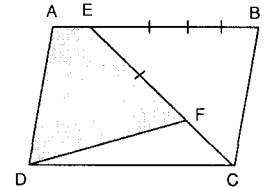


A) 26 B) 28 C) 36 D) 38 E) 42

8. $(n + 6)$ kenarlı bir düzgün çokgenin $n^2 + 4$ tane köşegeni vardır. Bu düzgün çokgenin bir dış açısının ölçüsü kaç derecedir?

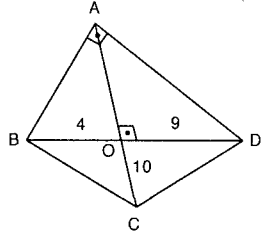
A) 12 B) 22,5 C) 30 D) 36 E) 45

9. ABCD paralelkenar
[AB] 5 eşit parçaya,
[EC] 3 eşit parçaya
ayrılmıştır.
 $A(ABCD) = 80 \text{ br}^2$ ise
taralı alan kaç birim-
karedir?



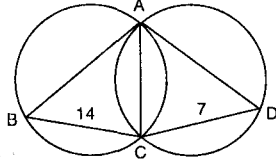
A) $\frac{104}{3}$ B) 36 C) 40 D) $\frac{124}{3}$ E) $\frac{134}{3}$

10. Şekilde [AC] ⊥ [BD],
[BA] ⊥ [AD],
IOCI = 10 br
IODI = 9 br ve
IBOI = 4 br ise ABCD
dörtgeninin alanı
kaç birimkaredir?



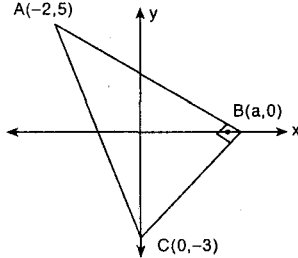
A) 94 B) 100 C) 104 D) 108 E) 120

11. AB ve AD A noktasında çemberlere teğettir. $IBC I = 14$ br ve $ICD I = 7$ br ise **IAC I kaç birimdir?**



- A) 7 B) $7\sqrt{2}$ C) $7\sqrt{3}$
D) $14\sqrt{2}$ E) $14\sqrt{3}$

12. Şekildeki ABC üçgeninde $[AB] \perp [BC]$, $A(-2, 5)$ $C(0, -3)$ $B(a, 0)$ ise $\Delta A(ABC)$ kaç birimkaredir?

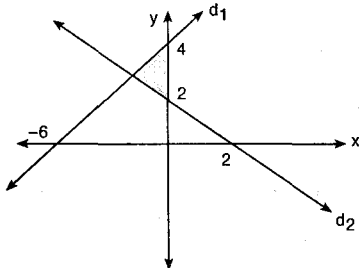


- A) 30 B) 28 C) 18 D) 16 E) 15

13. $y = -x^2 + 4ax + 8a - 12$ parabolünün tepe noktalarının 3. bölgede olması için a hangi aralıktadır?

- A) $-3 < a < 0$ B) $-4 < a < 2$
C) $2 < a < 3$ D) $-3 < a < 1$
E) $-2 < a < 3$

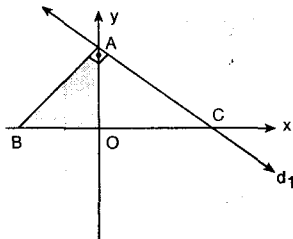
14.



Şekilde d_1 ve d_2 doğrularının y eksenine oluşturduğu taralı bölgenin alanı kaç birimkaredir?

- A) 1 B) $\frac{6}{5}$ C) 2 D) $\frac{5}{2}$ E) 3

15.



Şekilde ABC üçgeni $d_1 : x + 4y - 16 = 0$ $[AB] \perp [AC]$ ise ABO üçgeninin alanı kaç birimkaredir?

- A) 0,5 B) 1 C) 1,25 D) 1,5 E) 2

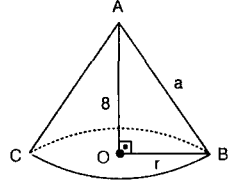
16. Bir dikdörtgenler prizmasının boyutları 3, 4, 5 ile orantılıdır.

Cisim köşegeni $20\sqrt{2}$ br olduğuna göre dikdörtgenler prizmasının en büyük yüzünün alanı kaç br^2 'dir?

- A) 192 B) 220 C) 240 D) 280 E) 320

17. Şekildeki dik konide $[AO] \perp [OB]$

$IAB I = a$, $I AO I = 8$ br ve $a + r = 32$ ise koninin hacmi kaç π 'dir?

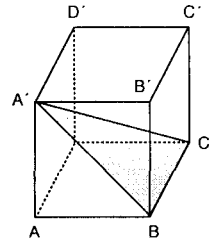


- A) 200 B) 400 C) 600 D) 620 E) 680

18. Taban alanı $243 br^2$ olan bir kare prizmanın taban köşegeni cisim köşegeni ile 60° 'lik açı yaptığına göre cisim köşegen uzunluğu kaç birimdir?

- A) 9 B) $9\sqrt{3}$ C) $9\sqrt{6}$
D) $18\sqrt{3}$ E) $18\sqrt{6}$

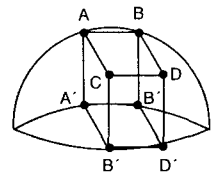
19. Şekildeki küpte $A'BC$ üçgeninin alanı $2\sqrt{2} br^2$ olduğuna göre küpün hacmi kaç br^3 tür?



- A) 8 B) 16 C) 64 D) 125 E) 216

20. Bir ayrıtı 2 br olan küp yarım kürenin içine şekildeki gibi köşeleri yüzeylere gelecek şekilde yerleştirilmiştir.

Buna göre yarım kürenin hacmi kaç πbr^3 tür?



- A) $2\sqrt{6}$ B) $3\sqrt{6}$ C) $4\sqrt{6}$
D) $5\sqrt{6}$ E) $6\sqrt{6}$

ÖSS DENEME SINAVI -5

1. Şekilde $d_1 \parallel d_2$,
[AD] ve [BD]
açıortaydır.

$$m(\hat{ADB}) = 80^\circ$$

$$|AB| = |AC| \text{ ve}$$

$a + b = 60^\circ$ ise $m(\hat{BAC})$
kaç derecedir?

- A) 20 B) 30 C) 36 D) 40 E) 42

2. Şekilde $[AF] \parallel [DE]$ ve
 $m(\hat{ABC}) = m(\hat{CDE})$ dir.
 $m(\hat{BAF}) = y + 10^\circ$,
 $m(\hat{BCD}) = x^\circ$ ise y 'nin
 x türünden eşiti ne-
dir?

- A) x B) $x - 10$ C) $x + 10$
D) $2x$ E) $2x - 20$

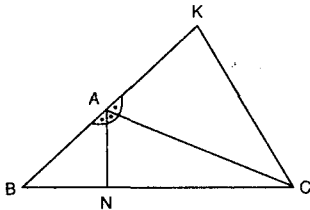
3. Şekilde,
 $|AB| = |AC|$ ve
 $\triangle ABE$ ile $\triangle CDE$ ni
eşitir.
 $m(\hat{ADC}) = 70^\circ$
ise $m(\hat{AEC})$
kaç derecedir?

- A) 40 B) 35 C) 30 D) 25 E) 20

4. ABC üçgeninin kenarları birer tam-sayı olmak üzere, çevresinin en küçük değeri aşağıdakilerden hangisidir?

- A) 46 B) 47 C) 48 D) 49 E) 50

5.



Şekilde B, A, K doğrusal ve

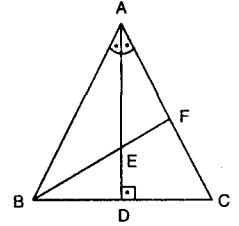
$$m(\hat{BAN}) = m(\hat{NAC}) = m(\hat{CAK}) \text{ dir. } |AB| = |AK| = 6 \text{ br}$$

$|AN| = 4 \text{ br}$ ise $m(\hat{BKC})$ kaç derecedir?

- A) 60 B) 70 C) 75 D) 80 E) 90

6. Şekilde [AD] açıortay ve
[AD] $\perp$ [BC] dir.
 $\frac{|AB|}{|FC|} = \frac{5}{2}$ ise $\frac{|AE|}{|ED|}$ oranı
kaçtır?

- A) 4 B) $\frac{7}{2}$
C) 3 D) $\frac{5}{2}$
E) 2



7. Şekildeki dik
üçgende [AH] $\perp$ [BC]
 $|HC| = 4$, $|HB|$ ve
 $|AC|^2 - |AB|^2 = 75 \text{ br}^2$
ise $A(ABC)$ kaç
 br^2 dir?

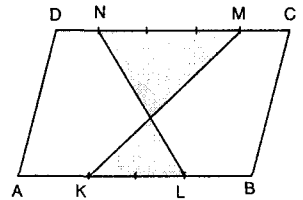
- A) 25 B) 24 C) 20 D) 16 E) 15

8. Şekilde
[AB] $\parallel$ [CD] dir.
 $A(ABE) = 18 \text{ br}^2$
 $A(CDE) = 8 \text{ br}^2$
ise $\frac{A(ABC)}{A(ACD)}$
kaçtır?

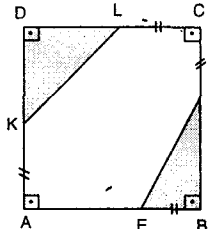
- A) 1 B) $\frac{5}{4}$ C) $\frac{4}{3}$ D) $\frac{3}{2}$ E) 2

9. ABCD paralelke-
nar dörtgeninin
[AB] kenarı 4,
[CD] kenarı 5 eşit
parçaya
bölünmüştür.
 $A(ABCD) = 220 \text{ br}^2$
ise taralı alanlar
toplamı kaç
 br^2 dir?

- A) 53 B) 61 C) 63 D) 67 E) 77



10.



ABCD kare ve $|AE| = 4 \text{ br}$, $|AK| = |BE| = |CF| = |DL|$

ve $A(BEF) + A(DKL) = \frac{A(ABCD)}{4}$ ise taralı olmayan

bölgenin alanı kaç birimkaredir?

- A) 24 B) 28 C) 36 D) 40 E) 48

11. ABCDEF düzgün altıgen ve A, C, K doğrusaldır.

$$|AC| = \sqrt{3} |CK|$$

ve

$$|DK| = 4\sqrt{6} \text{ birim}$$

ise altıgenin en uzun köşegeni kaç birimdir?

- A) 8 B) $8\sqrt{2}$ C) $8\sqrt{3}$
D) $8\sqrt{6}$ E) $12\sqrt{2}$

12. ABCD yamuk ve $|AB| + |CD| = 35$ br'dir.

$$\frac{A(\triangle CDE)}{A(\triangle ABCD)} = \frac{2}{7} \text{ ise}$$

$|AB|$ kaç birimdir?

- A) 25 B) 21 C) 20 D) 18 E) 16

13. O merkezli çemberde $m(\widehat{EDC}) = 20^\circ$,

$$m(\widehat{AED}) = x^\circ$$

$$m(\widehat{DCA}) = x + 15^\circ$$

ise $m(\widehat{AFE})$ kaç derecedir?

- A) 55 B) 60 C) 65 D) 70 E) 75

14. Şekilde EF çembere D noktasında teğet ve

$$m(\widehat{ABC}) = 75^\circ$$

$$m(\widehat{CAD}) = 35^\circ \text{ ise}$$

$m(\widehat{ADE}) = x$ kaç derecedir?

- A) 30 B) 35 C) 40 D) 45 E) 50

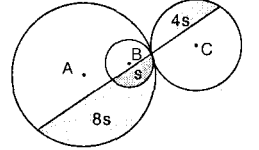
15. Şekildeki A merkezli çember yayı ABC dik üçgeninin BC kenarına D noktasında teğettir.

$$|BD| = \sqrt{5} \text{ br}$$

$$|DC| = 4\sqrt{5} \text{ br ise } |EC| - |FB| \text{ kaç birimdir?}$$

- A) $2\sqrt{5}$ B) 5 C) 6
D) $2\sqrt{10}$ E) $3\sqrt{5}$

16. S, 4S ve 8S içinde bulundukları kapalı bölgelerin alanlarını göstermektedir. Buna göre A, B ve C merkezli çemberlerin yarıçapları sırasıyla aşağıdaki sayılardan hangisi ile orantılıdır?



- A) (3, 1, 2) B) (8, 1, 4) C) (4, 1, 2)
D) (6, 2, 3) E) (5, 1, 3)

17. a ve b birbirinden farklı pozitif tamsayılarıdır. $ax + by + 8 = 0$ doğrusunun koordinat eksenleri ile oluşturduğu üçgenin alanı en çok kaç birimkaredir?

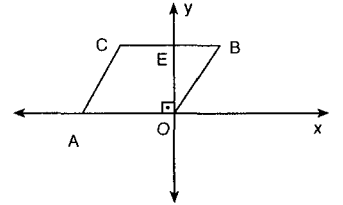
- A) 64 B) 48 C) 32 D) 24 E) 16

18. Şekilde AOBC dörtgeni paralel kenardır.

$$B(5, 4) \text{ ve}$$

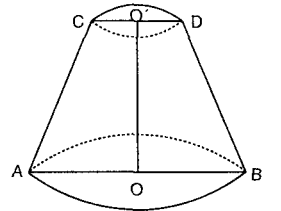
$$C(-3, 4) \text{ ise}$$

$A(\triangle OEC)$ kaç birimkaredir?



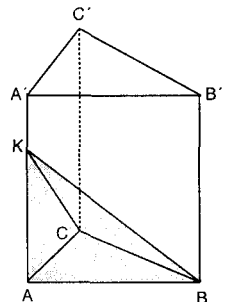
- A) 16 B) 18 C) 20 D) 22 E) 24

19. Şekildeki kesik konide $|AO| = 12$ br, $|CO'| = 3$ br ve $|OO'| = 6$ br ise kesik koninin hacmi kaç π br³tür?



- A) 196 B) 224 C) 286 D) 312 E) 378

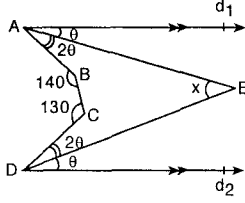
20. Şekildeki üçgen piramidesinin hacmi (K, ABC) piramidesinin hacminin 4 katı ise $\frac{|AK|}{|AK|}$ kaçtır?



- A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{1}{4}$ D) $\frac{1}{6}$ E) $\frac{1}{8}$

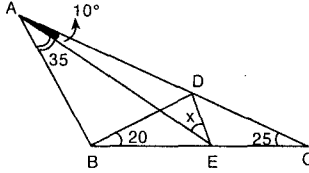
ÖSS DENEME SINAVI -6

1. Şekilde $d_1 \parallel d_2$ ise verilen ölçülere göre x kaç derecedir?



A) 15 B) 20 C) 25 D) 30 E) 35

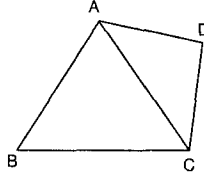
2. Şekilde,
 $m(\hat{BAE}) = 35^\circ$,
 $m(\hat{EAC}) = 10^\circ$
 $m(\hat{DBC}) = 20^\circ$
ve $m(\hat{ACB}) = 25^\circ$ dir.



Buna göre $m(\hat{AED}) = x$ kaç derecedir?

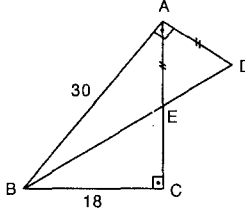
A) 60 B) 55 C) 50 D) 45 E) 40

3. ABC eşkenar üçgeninin çevresi 30 cm ve $AD = DC$ dir.
 $m(\hat{ADC}) < 90^\circ$ ise (ACD) üçgeninin çevresinin en küçük tamsayı değeri kaç cm'dir?



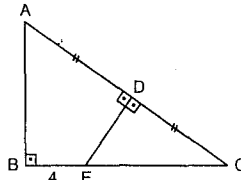
A) 20 B) 21 C) 23 D) 25 E) 26

4. Şekilde $[AB] \perp [AD]$ ve $[BC] \perp [AC]$ dir.
 $IAEI = IADI$ ve
 $IABI = 30$ br,
 $IBCI = 18$ br
İse $IEDI$ kaç birimdir?



A) $5\sqrt{3}$ B) 10 C) 12 D) $5\sqrt{6}$ E) $6\sqrt{5}$

5. Şekildeki ABC dik üçgeninde $[ED] \perp [AC]$ dir.
 $IADI = IDC$ ve
 $IABI = \sqrt{3}IEI$
 $IBEI = 4$ cm ise $IECI$ kaç cm'dir?



A) 8 B) $4\sqrt{3}$ C) $2\sqrt{10}$
D) 6 E) $\sqrt{30}$

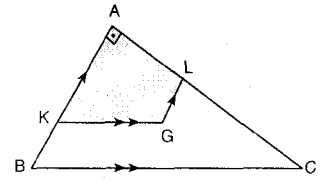
- 6.

Şekildeki dik üçgende G ağırlık merkezi ve taralı alan 32 cm^2 dir.

$[GK] \parallel [BC]$

$[GL] \parallel [AB]$ ve

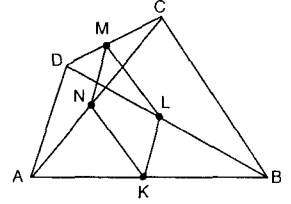
$IGLI = 4$ cm ise $IKGI$ kaç cm'dir?



A) 10 B) 8 C) $\frac{20}{3}$ D) 6 E) $\frac{16}{3}$

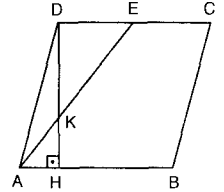
7. ABCD teğetler dörtgeninin çevresi 48 cm'dir.

K, L, M, N noktaları bulundukları kenar ve köşegenlerin orta noktaları ise KLMN dörtgeninin çevresi kaç cm'dir?



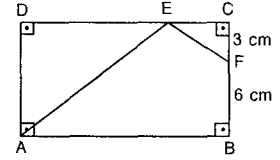
A) 48 B) 36 C) 30 D) 24 E) 18

8. ABCD eşkenar dörtgen $IDEI = IEI$,
 $[DH] \perp [AB]$ dir.
 $IDKI = 6$ cm,
 $IKHI = 4$ cm ise
ABCD dörtgeninin çevresi kaç cm'dir?



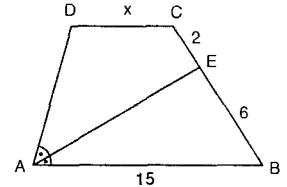
A) 60 B) $30\sqrt{2}$ C) 48
D) $24\sqrt{2}$ E) 36

9. ABCD dikdörtgen, $IDEI = 4IEI$
 $IBFI = 6$ cm,
 $ICFI = 3$ cm ve
 $A(ABFE) = 102 \text{ cm}^2$ ise $IABI$ kaç cm'dir?



A) 30 B) 27 C) 25 D) 24 E) 20

10. ABCD ikizkenar yamuk, $[AE]$ açıortaydır.
 $IABI = 15$ br,
 $IBEI = 6$ br,
 $IECI = 2$ br
İse $ICDI = x$ kaç birimdir?



A) 3 B) 4 C) 5 D) 6 E) 7

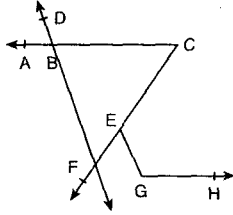
ÖSS DENEME SINAVI -7

1. Yandaki şekil düzlemseldir.
 $BD \perp [CF]$, $[CA] \parallel [GH]$
 $[BD] \parallel [EG]$

$$m(\widehat{EGH}) - m(\widehat{ABD}) = 80^\circ$$

ise $m(\widehat{ACF})$ kaç derecedir?

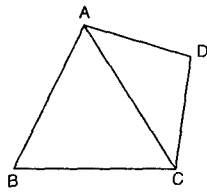
- A) 30 B) 35 C) 40 D) 45 E) 50



2. Şekilde ABC eşkenar üçgendir.

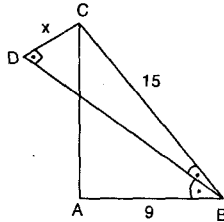
Δ
 Çevre (ACD) = 40 cm ise
ABC eşkenar üçgeninin çevresinin alabileceği en büyük tamsayı değeri kaç cm'dir?

- A) 51 B) 54 C) 57 D) 59 E) 60



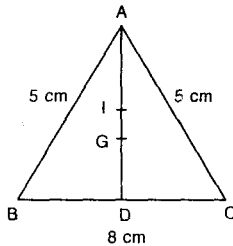
3. Şekilde $[AB] \perp [AC]$
 $[CD] \perp [DB]$,
 $|BC| = 15$ cm,
 $|AB| = 9$ cm ise
 verilenlere göre
 $|DC| = x$ kaç cm'dir?

- A) $2\sqrt{5}$ B) $\frac{3\sqrt{5}}{2}$ C) $3\sqrt{5}$ D) 6 E) 9



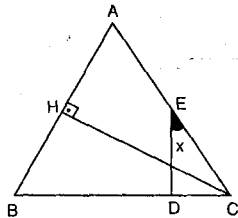
4. Şekildeki ABC üçgeninde G, ağırlık merkezi I, içteğet çemberin merkezidir.
 $|AB| = |AC| = 5$ cm
 $|BC| = 8$ cm ise
 $|IG|$ kaç cm'dir?

- A) $\frac{1}{3}$ B) $\frac{2}{3}$ C) 1 D) $\frac{4}{3}$ E) $\frac{5}{3}$



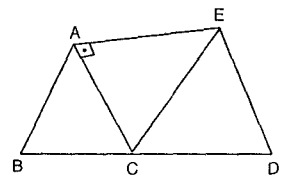
5. Şekilde ABC eşkenar üçgendir.
 $|AE| = |EC|$,
 $|CH| = |BD|$,
 $[CH] \perp [AB]$ olduğuna
 göre $m(\widehat{DEC}) = x$ kaç derecedir?

- A) 75 B) 67,5 C) 60 D) 30 E) 15



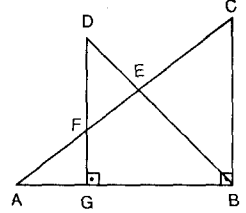
6. Şekilde B, C, D doğrusaldır. ABC ve ECD eşkenar üçgenlerdir.
 $[AE] \perp [AC]$ ve
 $|BD| = 24$ cm ise
 $|AE|$ kaç cm'dir?

- A) $2\sqrt{3}$ B) $4\sqrt{3}$ C) $5\sqrt{3}$
 D) $6\sqrt{3}$ E) $8\sqrt{3}$



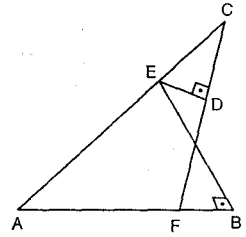
7. Şekilde $[AB] \perp [BC]$,
 $[DG] \perp [AB]$,
 $|AF| = |EC| = 2|FE| = 4$ br
 ve $|DG| = \frac{9}{2}$ br ise
 $|AB|$ kaç br'dir?

- A) $5\sqrt{3}$ B) $6\sqrt{3}$ C) $7\sqrt{3}$
 D) $8\sqrt{3}$ E) $9\sqrt{3}$



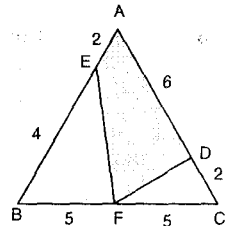
8. Şekilde
 $|AF| = 2|FC| = 16$ cm
 $|ED| = 2$ cm,
 $|BE| = 6$ cm ise
ACF üçgeninin alanı kaç cm²'dir?

- A) 56 B) 64 C) 70 D) 80 E) 88

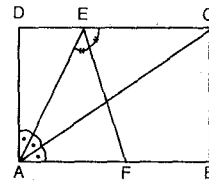


9. Şekilde $|AE| = 2$ cm
 $|BE| = 4$ cm
 $|AD| = 6$ cm
 $|DC| = 2$ cm
 $|BF| = |FC| = 5$ cm
 olduğuna göre **taralı alan kaç cm²'dir?**

- A) 13 B) 14 C) 15 D) 16 E) 17



- 10.



Şekildeki ABCD dikdörtgeninde $|EC| = 8$ br

$$m(\widehat{EAD}) = m(\widehat{CAE}) = m(\widehat{BAC}),$$

$m(\widehat{AEF}) = m(\widehat{FEC})$ olduğuna göre $|EF|$ kaç br'dir?

- A) 4 B) 6 C) 8 D) 10 E) 12

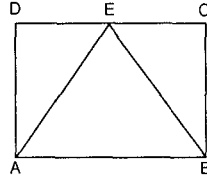
11. Şekildeki ABCD dikdörtgeninde

$$m(\widehat{DAE}) = 60^\circ,$$

$$|AD| = 13 \text{ br}$$

$|AB| = 26 \text{ br}$ ise $m(\widehat{CBE})$ açısı kaç derecedir?

- A) 15 B) 25 C) 30 D) 45 E) 60

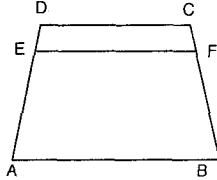


12. Şekildeki ABCD yamuğunda $[EF] \parallel [AB]$,

$$\frac{|DE|}{|EA|} = \frac{1}{4}, |DC| = 6 \text{ br}$$

$|EF| = 8 \text{ br}$ ise $|AB|$ kaç br'dir?

- A) 14 B) 15 C) 16 D) 18 E) 20



13. Şekilde $[AB] \parallel [DE]$,

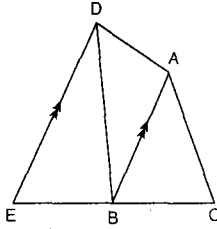
$$|EB| = 6 \text{ cm}$$

$$|BC| = 3 \text{ cm},$$

$$A(\triangle BAD) = 30 \text{ cm}^2$$

ise $A(\triangle ABC)$ kaç cm^2 'dir?

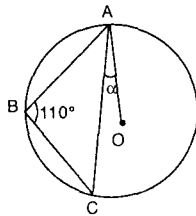
- A) 18 B) 16 C) 15 D) 12 E) 9



14. Şekildeki O merkezli çemberde $m(\widehat{ABC}) = 110^\circ$

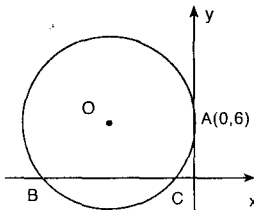
ise $m(\widehat{CAO}) = \alpha$ ise α kaç derecedir?

- A) 15 B) 20 C) 30 D) 35 E) 40



15. Şekilde O merkezli çembere dik koordinat sisteminde y ekseninde $A(0, 6)$ noktasında teğettir. $|BC| = 16 \text{ cm}$ ise B noktasının apsisi nedir?

- A) -18 B) -19 C) -20 D) -21 E) -22



16. Şekilde O_1 ve O_2 merkezli iki çember B noktasında dıştan teğettir. A, B, C noktaları doğrusal ve $[CD]$ iki çemberin dıştan ortak teğettir. $[BH] \perp [CD]$,

$|IHDI| = 3\sqrt{3} \text{ cm}$ ve $|AB| = 6 \text{ cm}$ ise $|BC|$ kaç cm'dir?

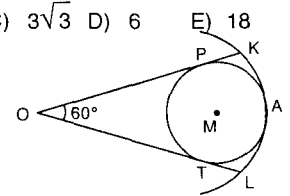
- A) $2\sqrt{3}$ B) 3 C) $3\sqrt{3}$ D) 6

17. Şekilde M merkezli çember O merkezli daire dilimine, A noktasında teğettir.

$$m(\widehat{KOL}) = 60^\circ$$

$|OKI| = 12 \text{ cm}$ ise taralı alan kaç cm^2 'dir?

- A) $\frac{10\pi - 24\sqrt{3}}{3}$ B) $\frac{10\pi - 12\sqrt{3}}{3}$ C) $\frac{20\pi - 12\sqrt{3}}{3}$
D) $\frac{20\pi - 24\sqrt{3}}{3}$ E) $20\pi - 24\sqrt{3}$

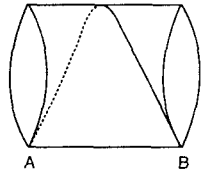


18. Taban alanının yanıl alanına oranı $\frac{5}{13}$ olan bir dik koninin hacmi $800\pi \text{ br}^3$ ise yüksekliği kaç br'dir?

- A) 24 B) 18 C) 15 D) 12 E) 6

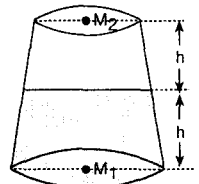
19. Şekildeki silindirde $|AB| = 12 \text{ cm}$ ve silindirin yan yüzeyinin alanı 60 cm^2 ise A noktasından B noktasına sarılan ipin uzunluğu kaç cm'dir?

- A) 5 B) 8 C) 12 D) 13 E) 15



20. Şekilde kesik koni biçiminde verilen kap yarıya kadar su ile doludur. M_2 merkezli çemberin yarıçapı r , M_1 merkezli çemberin yarıçapı $3r$ ise boş kısmın hacminin suyun hacmine oranı kaçtır?

- A) $\frac{8}{11}$ B) $\frac{4}{21}$ C) $\frac{7}{19}$ D) $\frac{7}{23}$ E) $\frac{5}{19}$



ÖSS DENEME SINAVI -8

1. Şekilde $d_1 \parallel d_2$
 $[DE] \perp d_2$,

$$m(\hat{BAC}) = 60^\circ,$$

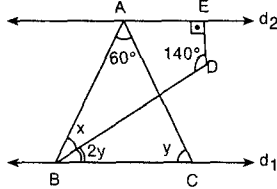
$$m(\hat{BDE}) = 140^\circ,$$

$$m(\hat{ACB}) = y^\circ \text{ ve}$$

$$m(\hat{DBC}) = 2y^\circ \text{ ise}$$

$$m(\hat{ABD}) = x \text{ kaç derecedir?}$$

- A) 40 B) 45 C) 50 D) 55 E) 60



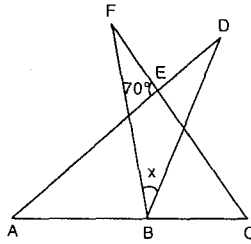
2. A, B, C noktaları
doğrusaldır.
 $IBFI = IBCI$,
 $IABI = IBDI$,

$$m(\hat{FEA}) = 70^\circ \text{ ise}$$

$$m(\hat{FBD}) = x$$

$$\text{kaç derecedir?}$$

- A) 30 B) 35 C) 40 D) 45 E) 70



3. $IABI = IACI$,
 $IADI = IDC I$,

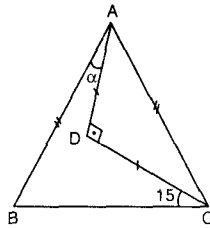
$$m(\hat{ADC}) = 90^\circ$$

$$m(\hat{BCD}) = 15^\circ \text{ ise}$$

$$m(\hat{BAD}) = \alpha \text{ kaç derece-}$$

$$\text{dir?}$$

- A) 10 B) 15 C) 20 D) 30 E) 45



4. Şekilde $[AB] \perp [AC]$ ve

$$m(\hat{BDC}) > 90^\circ,$$

$$IABI = 8 \text{ cm},$$

$$IACI = 6 \text{ cm ve}$$

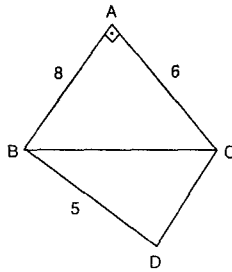
$$IBDI = 5 \text{ cm ise}$$

$$IDCI \text{ nin alabileceği en}$$

$$\text{büyük tamsayı değeri}$$

$$\text{kaç cm'dir?}$$

- A) 5 B) 6 C) 7 D) 8 E) 9



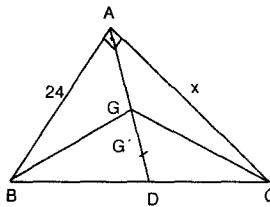
5. Şekilde G ve G'
sırasıyla ABC ve
BGC üçgenlerinin
ağırlık merkezidir.
 $[AB] \perp [AC]$,

$$IABI = 24 \text{ cm ve}$$

$$IG'DI = \frac{5}{3} \text{ cm ise}$$

$$IACI = x \text{ kaç cm'dir?}$$

- A) 15 B) $15\sqrt{3}$ C) 18
D) $18\sqrt{3}$ E) 24



6. Şekilde ABC eşkenar
üçgendir.
 $IAEI = 3 \text{ cm}$,
 $IDCI = 5 \text{ cm}$
 $IBDI = 8 \text{ cm}$ ise $IEDI$ kaç
cm'dir?

A) 5

B) $5\sqrt{3}$

C) 8

D) $8\sqrt{3}$

E) 9

7. Şekilde

$$\Delta_{ABC} = \Delta_{BDC}$$

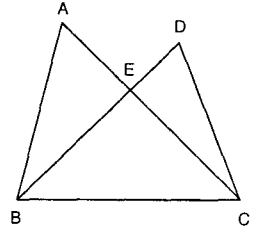
$$ICEI = 6 \text{ br},$$

$$IAEI = 3 \text{ br ve}$$

$$IBDI = 12 \text{ br ise}$$

$$IBEI \text{ kaç br'dir?}$$

- A) 6 B) 7 C) 8 D) 9 E) 10



8. Şekildeki ABC
üçgeninde
 $[DE] \parallel [BC]$
 $IADI = 3IDBI$,

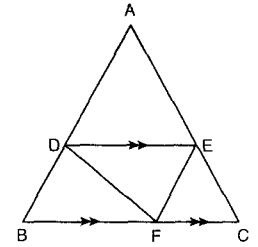
$$A(\hat{BDF}) + A(\hat{EFC}) = 12$$

$$\text{cm}^2$$

$$\text{ise DEF üçgeninin}$$

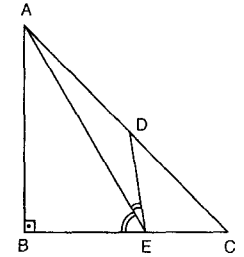
$$\text{alanı kaç cm}^2\text{dir?}$$

- A) 6 B) 8 C) 9 D) 10 E) 12



9. $[EA]$; $\hat{DEB}$ açısının
açıortaydır.
 $IABI = 8 \text{ cm}$, $IECI = 6 \text{ cm}$
 $IDEI = 4 \text{ cm}$, $[AB] \perp [BC]$
ise DEC üçgeninin alanı
kaç cm^2 'dir?

- A) 8 B) 9 C) 10 D) 11 E) 12



10. ABCDEF düzgün
altıgendir. $IABI = 6 \text{ br}$ ve
K, L, M orta noktalar ise
KLM üçgeninin alanı
kaç br^2 'dir?

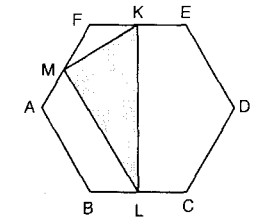
A) $\frac{9\sqrt{3}}{2}$

B) $9\sqrt{3}$

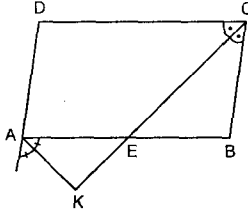
C) $\frac{27\sqrt{3}}{2}$

D) $27\sqrt{3}$

E) $32\sqrt{3}$

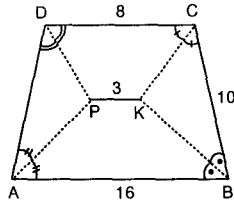


11. ABCD paralelkenarında [AK], [CK] açıortaylar, $IAI = 16$ br, $IBC = IKE = 6$ br olduğuna göre **IAKI** kaç birimdir?



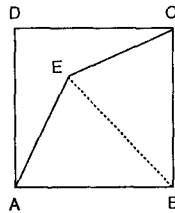
A) 6 B) 8 C) 9 D) 10 E) 12

12. Şekilde ABCD yamuktur. [DP], [CK], [KB] ve [AP] açıortaydır. $IDCI = 8$ c.n, $IAI = 16$ cm, $ICBI = 10$ cm, $IPKI = 3$ cm ise **IA DI** kaç cm'dir?



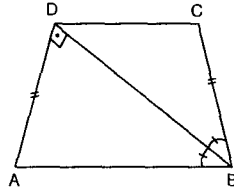
A) 4 B) 6 C) 8 D) 9 E) 12

13. Şekilde ABCD karedir. $IAEI = IECI = 10$ cm, $IBEI = 14$ cm'dir. Buna göre **IA BI** kaç cm'dir?



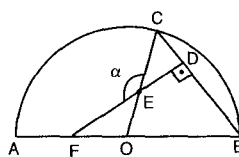
A) 6 B) $6\sqrt{2}$ C) 8 D) $8\sqrt{2}$ E) 10

14. Şekilde ABCD ikizkenar yamuktur. [BD] açıortay, $[AD] \perp [BD]$, $IAI = 8$ cm ise **ABCD** yamuğunun alanı kaç cm²'dir?



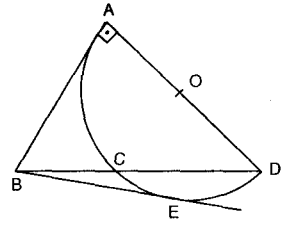
A) 10 B) $10\sqrt{3}$ C) 12
D) $12\sqrt{3}$ E) 8

15. O, [AB] çaplı çemberin merkezidir. $[FD] \perp [BC]$ ve $m(\angle COB) = 70^\circ$ ise $m(\angle FEC) = \alpha$ kaç derecedir?



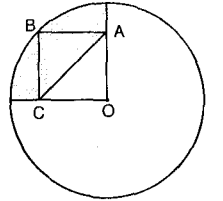
A) 145 B) 135 C) 120 D) 105 E) 100

16. $\triangle BAD$ dik üçgendir. $IOAI = \sqrt{6}$ cm, $ICDI = 3$ cm ve şekildeki O merkezli çembere [BE; E noktasında teğet ise **IBEI** kaç cm'dir?



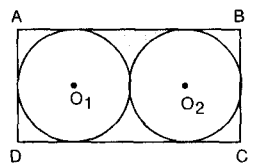
A) $\sqrt{10}$ B) $2\sqrt{10}$ C) $2\sqrt{5}$
D) $4\sqrt{5}$ E) $\sqrt{21}$

17. O merkezli çemberde OABC karedir. Karenin bir kenarı 6 cm ise **taralı alan** kaç cm²'dir?



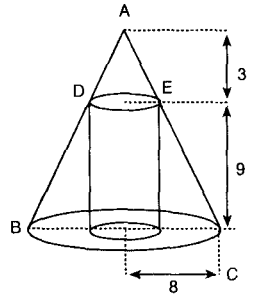
A) $18\pi - 24$ B) $18\pi - 18$ C) $18\pi - 9$
D) $12\pi - 6$ E) $9\pi - 9$

18. Şekildeki ABCD dikdörtgeninin içine, dikdörtgene ve birbirine teğet yarıçapları eşit O_1 ve O_2 merkezli iki çember çizilmiştir. Taralı alan 32 birimkare ise O_1 merkezli dairenin alanı kaç br²'dir? ($\pi = 3$ alınacak)



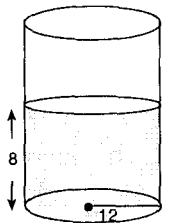
A) 240 B) 212 C) 192 D) 96 E) 48

19. Yüksekliği 9 cm olan bir silindir, taban yarıçapı 8 cm ve yüksekliği 12 cm olan bir dik koninin içine şekildeki gibi yerleştiriliyor. Buna göre **silindirin hacminin koninin hacmine oranı** kaçtır?



A) $\frac{8}{9}$ B) $\frac{3}{8}$ C) $\frac{16}{81}$ D) $\frac{9}{64}$ E) $\frac{9}{128}$

20. Taban yarıçapı 12 cm olan silindirin içinde 8 cm yüksekliğinde su vardır. Yarıçapı 6 cm olan bir küre silindirin içine atıldığında tabana oturuyor. **Suyun en son yüksekliği** kaç cm olur?



A) 9 B) 9,5 C) 10 D) 10,5 E) 12

ÖSS DENEME SINAVI -9

1. Şekilde D noktası [OB] üzerinde değişken bir nokta, [OK] AOB açısının açıortayı, $IPCI = IPDI$

$$m(\hat{OCP}) = 132^\circ \text{ ise}$$

$m(\hat{PDO}) = x$
aşağıdakilerden hangisidir?

- A) 56 B) 52 C) 48 D) 42 E) 36

2. Şekilde ABC eşkenar üçgen, $[AB] \perp [CF]$ ve $[AB] \perp [EB]$ dir. $IACI = IBEI$ olduğuna göre

$m(\hat{FCD}) = x$
kaç derecedir?

- A) 30 B) 25 C) 20 D) 15 E) 10

3. Şekilde $IADI = IBDI$, $[AB] \perp [ED]$, $IACI = 6$ cm, $IECI = 3$ cm olduğuna göre IBC'nin en büyük tamsayı değeri kaç cm'dir?

- A) 9 B) 10 C) 11 D) 12 E) 13

4. Şekildeki ABC üçgeninde

$$m(\hat{BAD}) = 80^\circ$$

$$m(\hat{DAC}) = 50^\circ$$

$$IABI = 7 \text{ cm}$$

$$IADI = 3 \text{ cm}$$

$$IBDI = 8 \text{ cm ise}$$

IBCI kaç cm'dir?

- A) 16 B) 14 C) 10 D) 8 E) 6

5. Şekildeki ABDC dörtgeninde [BC] açıortay ve $IBDI = 6$ cm, $IACI = 8$ cm, $IABI = 10$ cm ise $ICDI = x$ kaç cm'dir?

- A) $\sqrt{3}$ B) $2\sqrt{3}$ C) 3 D) $4\sqrt{3}$ E) 8

6. G, ABC üçgeninin ağırlık merkezidir.

$$IAGI = 20 \text{ cm,}$$

$$IDGI = 6 \text{ cm ve}$$

$$IGEI = 8 \text{ cm ise}$$

IAEI kaç cm'dir?

$$A) 4\sqrt{7}$$

$$B) 12$$

$$C) 4\sqrt{13}$$

$$D) 16$$

$$E) 18$$

7. ABC üçgeninde

$$m(\hat{A}) = 90^\circ,$$

$$3IDCI = IBDI,$$

$$IADI = 5 \text{ cm ve}$$

$$IAEI = IEBI \text{ ise}$$

IEDI = x kaç cm'dir?

$$A) 3$$

$$B) 4$$

$$C) 5$$

$$D) 6$$

$$E) 7$$

8. ABC dik üçgeninde

$$IAEI = IECI = \frac{13}{2} \text{ cm,}$$

$$IBCI = 5 \text{ cm ve}$$

$$IBDI = 2 \text{ cm ise}$$

$A(\triangle ADE)$ kaç cm^2 dir?

$$A) 7,5$$

$$B) 10$$

$$C) 12,5$$

$$D) 15$$

$$E) 18$$

9. ABC dik üçgeninde

$$[DE] \parallel [BC] \text{ dir.}$$

$$IAEI = 8 \text{ cm ve}$$

$$IDCI = 6 \text{ cm ise ta-}$$

ralı alan kaç cm^2 dir?

$$A) 36$$

$$B) 32$$

$$C) 28$$

$$D) 24$$

$$E) 18$$

10. Şekildeki ABCD

$$\text{dörtgeninde}$$

$$[DC] \perp [BC],$$

$$IAEI = IECI$$

$$IBDI = 13 \text{ cm ve}$$

$$IDCI = 5 \text{ cm ise } A(ABCD)$$

kaç cm^2 dir?

$$A) 90$$

$$B) 80$$

$$C) 72$$

$$D) 60$$

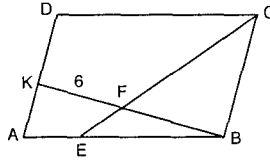
$$E) 48$$

11. ABCD paralelkenar

$2|AE| = |EB|$

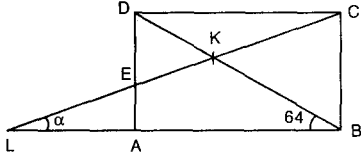
$3|AK| = |DK|$

$|KF| = 6$ cm ise $|FB|$
kaç cm'dir?



- A) 9 B) 8 C) 7 D) 6 E) 5

- 12.



ABCD bir dikdörtgen, $|BD| = |AL|$, $m(\angle ABD) = 64^\circ$ ise
 $m(\angle LCB) = \alpha$ kaç derecedir?

- A) 36 B) 34 C) 32 D) 28 E) 18

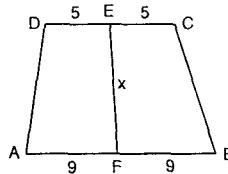
13. ABCD yamuk,

$m(\hat{A}) + m(\hat{B}) = 90^\circ$,

$|DE| = |EC| = 5$ cm,

$|AF| = |FB| = 9$ cm ise

$|EF| = x$ kaç cm'dir?



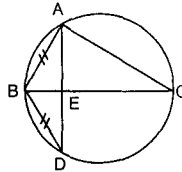
- A) 3 B) 4 C) 5 D) 6 E) 7

14. Şekildeki çemberde

$m(\hat{BAC}) = 110^\circ$,

$|AB| = |BD|$ ise

$m(\hat{BED})$ kaç derecedir?



- A) 100 B) 90 C) 80 D) 70 E) 60

- 15.
- $[BC]$
- çaplı O mer-

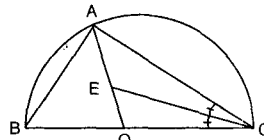
kezli çemberde $[CE]$,

ACB açısının

açıortayı,

$|AB| = |OC|$ ise

$\frac{|AE|}{|EO|}$ oranı kaçtır?



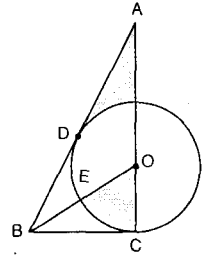
- A)
- $\frac{2}{3}$
- B)
- $\sqrt{3}$
- C)
- $\frac{3}{2}$
- D) 2 E)
- $\frac{3\sqrt{3}}{2}$

16. Şekildeki O merkezli çembere
- $[AB]$
- ve
- $[BC]$
- , C ve D noktalarında teğettir.

$|AC| = 3|OC|$

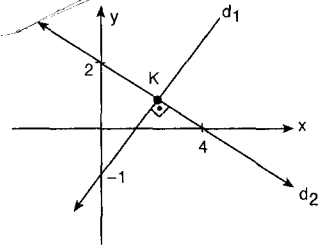
$|BO| = 6$ cm

ise taralı alanlar toplamı
kaç cm^2 'dir?



- A) 9 B)
- $\frac{9\sqrt{3}}{2}$
- C)
- $2\sqrt{3}$
- D)
- $\pi - 3$
- E)
- π

- 17.
- d_1
- ve
- d_2
- doğruları K noktasında dik kesişmekte ise K'nın koordinatları toplamı kaçtır?



- A)
- $\frac{6}{5}$
- B)
- $\frac{7}{5}$
- C) 1 D)
- $\frac{13}{5}$
- E)
- $\frac{14}{5}$

- 18.
- $d_1 \dots 2x - y + 12 = 0$
- doğrusunun
- $x - y = 0$
- doğrusuna göre, simetriği
- d_2
- doğrusudur.
- d_1
- ,
- d_2
- ve x eksenini ile sınırlanan bölgenin alanı kaç
- br^2
- 'dir?

- A) 120 B) 108 C) 102 D) 96 E) 92

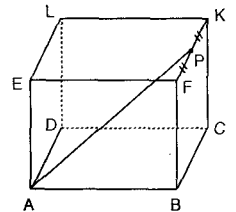
- 19.
- $\left. \begin{array}{l} y + x \geq 2 \\ y \leq x + 2 \\ x \leq 2 \end{array} \right\}$
- doğruları ile sınırlı bölgenin alanı kaç
- br^2
- 'dir?

- A) 1 B) 2 C) 3 D) 4 E) 5

20. Şekildeki küpte

$|FP| = |PK|$ ve

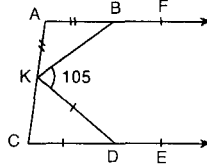
$|AP| = 3$ cm ise küpün
hacmi kaç cm^3 'tür?



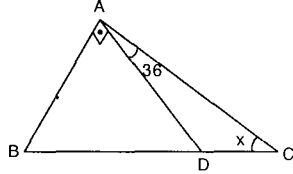
- A) 8 B)
- $8\sqrt{2}$
- C)
- $12\sqrt{2}$
- D) 16 E)
- $16\sqrt{2}$

ÖSS DENEME SINAVI -10

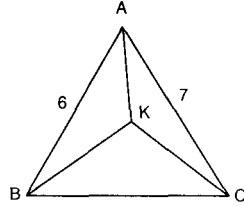
1. Şekilde
[AF] // [CE],
[AKI] = [ABI],
[ICDI] = [IKDI] ve
 $m(\hat{BKD}) = 105^\circ$ ise
 $m(\hat{AKB})$ kaç derecedir?
A) 30 B) 25 C) 20 D) 15 E) 10



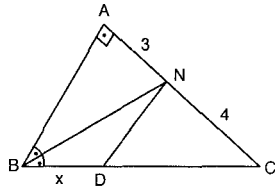
2. ABC üçgeninde
 $m(\hat{BAD}) = 90^\circ$,
 $m(\hat{DAC}) = 36^\circ$
[ACI] = 11 br
[DCI] = 4 br
[BDI] = 14 br
 $m(\hat{ACD}) = x$ kaç derecedir?
A) 36 B) 32 C) 24 D) 18 E) 12



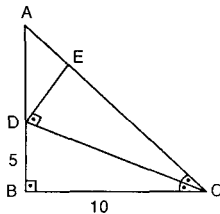
3. K noktası ABC
üçgeninin içinde alınan
herhangi bir nokta
[ABI] = 6 cm,
[ACI] = 7 cm ve
[IBK] + [ICK] = 11 cm ise
[BCI] nin en büyük
tamsayı değeri için
ABC üçgeninin
çevresi kaç cm'dir?
A) 24 B) 23 C) 22 D) 21 E) 20



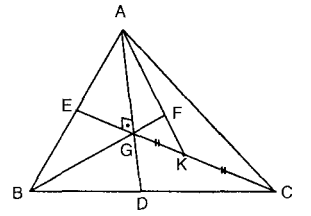
4. ABC üçgeninde
[BN] ABC açısının
açıortayı,
 $m(\hat{BAC}) = 90^\circ$,
[ANI] = 3 cm ve
[IND] = [INC] = 4 cm
ise [BDI] = x kaç
cm'dir?
A) $\sqrt{7}$ B) 3 C) $2\sqrt{7}$ D) 7 E) $3\sqrt{7}$



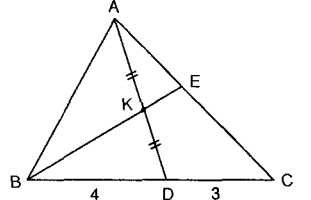
5. Şekildeki ABC üçgeninde
[CD], ACB açısının
açıortayı
 $m(\hat{EDC}) = m(\hat{DBC}) = 90^\circ$
[BDI] = 5 cm,
[BCI] = 10 cm ise
[CEI] kaç cm'dir?
A) 7,5 B) 10 C) 12,5 D) 14 E) 15



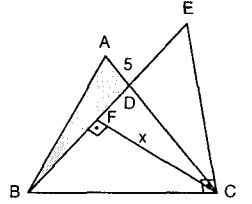
6. G, ABC üçgeninin
ağırlık merkezi,
[AD] ⊥ [CE],
[ICK] = [IKGI] ve
[ACI] = 18 cm
olduğuna göre
[IBFI] kaç cm'dir?
A) 18 B) 20 C) 24 D) 28 E) 32



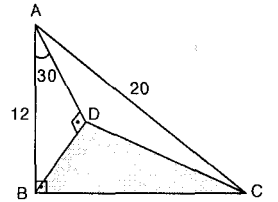
7. ABC üçgeninde
[AKI] = [IKDI],
[BDI] = 4 br ve
[DCI] = 3 br
olduğuna göre
 $\frac{[KEI]}{[KBI]}$ oranı
kaçtır?
A) $\frac{3}{11}$ B) $\frac{6}{11}$ C) $\frac{2}{7}$ D) $\frac{3}{14}$ E) 1



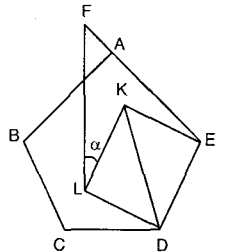
8. Şekildeki ABC
üçgeninde
[BE] ⊥ [CF], [EC] ⊥ [BC]
[BDI] = [IDE]
[ADI] = 5 cm ve
 $\Delta A(BD) = 35 \text{ cm}^2$,
[FCI] = x kaç cm'dir?
A) 21 B) 14 C) 12 D) 10 E) 7



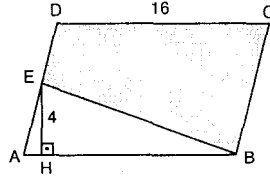
9. Şekildeki ABC dik
üçgeninde
[ABI] = 12 cm,
[ACI] = 20 cm,
[BD] ⊥ [AD] ve
 $m(\hat{BAD}) = 30^\circ$ ise
taralı alan kaç
cm²'dir?
A) 24 B) 20 C) 18 D) 16 E) 12



10. Şekildeki ABCDE düzgün
beşgen, DEKL kare ve
[FLI] = [IKDI] olduğuna göre
 $m(\hat{FLK}) = \alpha$ kaç derece-
dir?
A) 21 B) 18 C) 12 D) 9 E) 7

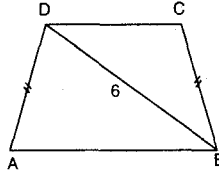


11. ABCD paralelkenar
 $[EH] \perp [AB]$,
 $|AD| = 3|ED|$,
 $|DC| = 16$ cm,
 $|EH| = 4$ cm ve
 olduğuna göre
EBGD dörtgeninin alanı kaç cm^2 'dir?



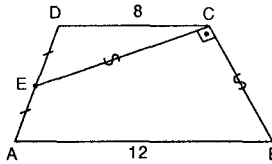
A) 72 B) 68 C) 64 D) 60 E) 56

12. ABCD ikizkenar
 yamukunda
 $m(\angle ABD) = m(\angle CBD) = 22,5$
 $|BD| = 6$ br ise
A(ABCD) kaç br^2 'dir?



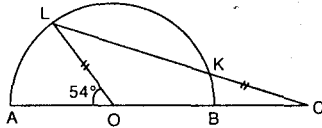
A) $12\sqrt{2}$ B) $9\sqrt{2}$ C) $8\sqrt{2}$
 D) $6\sqrt{2}$ E) $4\sqrt{2}$

13. ABCD yamuk,
 $[EC] \perp [BC]$,
 $|AE| = |ED|$,
 $|CE| = |CB|$,
 $|DC| = 8$ cm ve
 $|AB| = 12$ cm ise
A(ABCD) kaç cm^2 'dir?



A) 100 B) 90 C) 80 D) 70 E) 60

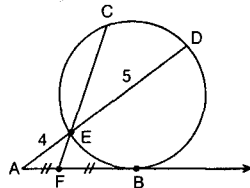
14. O merkezli
 yarımlar
 çemberde
 $|LO| = |KO|$ ve
 $m(\angle AOL) = 54^\circ$



ise $m(\angle ALC)$ kaç derecedir?

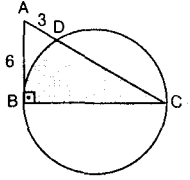
A) 32 B) 28 C) 20 D) 18 E) 16

15. Şekilde $[AB]$ teğetinin
 değme noktası B olup
 $|AF| = |FB|$,
 $|AE| = 4$ cm,
 $|ED| = 5$ cm ve
 $|EF| = 2$ cm ise **ICEI**
 kaç cm^2 'dir?



A) 3,5 B) 3 C) 2,5 D) 2 E) 1,5

16. Şekildeki çemberin çapı $[BC]$
 dir.
 A, D, C doğrusal $[AB] \perp [BC]$,
 $[AB] = 6$ cm ve
 $[AD] = 3$ cm ise
Taralı alan kaç cm^2 'dir?



A) $\frac{18\pi+27\sqrt{3}}{4}$ B) $\frac{9\pi+18\sqrt{3}}{2}$ C) $3\pi+6\sqrt{3}$

D) $\frac{27(\pi+\sqrt{3})}{4}$ E) $4\pi+5\sqrt{3}$

17. $A(2, 3)$ ve $B(-4, 5)$ noktalarından geçen
 doğrunun orta dikme doğrusunun denklemi
 aşağıdakilerden hangisidir?

A) $y + 3x + 7 = 0$ B) $2y - 3x + 8 = 0$
 C) $y + 3x - 7 = 0$ D) $3x - 2y + 8 = 0$
 E) $y - 3x - 7 = 0$

18. $a, b \in \mathbb{R}^+$ olmak üzere
 $(2-a)x - by + 5 = 0$ doğrusu ile $20x - (b+1)y + 6 = 0$
 doğrusu y ekseninde dik kesiştiklerine
 göre $a.b$ kaçtır?

A) $\frac{25}{2}$ B) 15 C) $\frac{35}{2}$ D) 20 E) 25

19. $A(1, 2)$, $B(4, 6)$, $P(x, 1)$ noktaları veriliyor. Buna
 göre
 $|PA| + |PB|$ toplamının en küçük değeri için x
kaçtır?

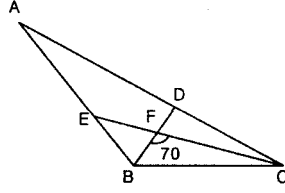
A) 5 B) 4 C) 3 D) 2 E) $\frac{3}{2}$

20. $\mathbb{R}^3$ 'te aşağıdakilerden hangisi daima doğru
 değildir?

A) Aynı düzlemde kesişen doğrulardan birine dik olan doğru düzlemde diktir.
 B) Aynı doğruya farklı noktalarda dik olan düzlemler paraleldir.
 C) Bir doğru düzlem içindeki bir doğruya paralelse, düzlem de paraleldir.
 D) Paralel iki düzlemi kesen üçüncü bir düzlemin oluşturduğu arakesit doğruları da birbirine paraleldir.
 E) Düzlemsel olmayan en az dört nokta bir uzay belirtir.

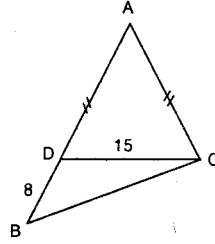
ÖSS DENEME SINAVI -11

1. ABC üçgeninde
 $IBDI = IBCI$
 $ICEI = IEAI$
 $m(\widehat{BFC}) = 70^\circ$ ise
 $m(\widehat{ABC})$ kaç de-
 recedir?



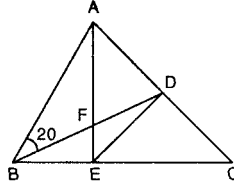
A) 70 B) 80 C) 90 D) 100 E) 110

2. Şekildeki ABC üçgeninde
 $IACI = IADI$ dir.
 $IDCI = 15$ br ve $IDBI = 8$
 br ise $\triangle DBC$ üçgeninin
 çevresinin alabileceği
 en küçük tamsayı değeri
 kaç br'dir?



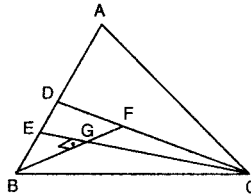
A) 39 B) 40 C) 41 D) 42 E) 43

3. ABC üçgeninde
 F diklik merkezi ve
 $m(\widehat{ABD}) = 20^\circ$ ise
 $m(\widehat{AED})$ kaçtır?



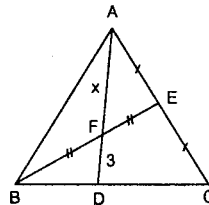
A) 10 B) 15 C) 20 D) 25 E) 30

4. $\triangle DBC$ de G
 ağırlık merkezi
 $m(\widehat{EGB}) = 90^\circ$,
 $IADI = IDBI$,
 $IDEI = IEBI$ ve
 $IBCI = 4$ cm ise $IACI$ kaç cm'dir?



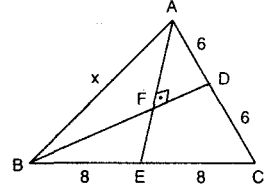
A) 6 B) 9 C) 10 D) 12 E) 18

5. ABC üçgeninde
 $IAEI = IECI$,
 $IBFI = IFEI$ ve
 $IFDI = 3$ cm ise
 $IAFI = x$ kaç cm'dir?



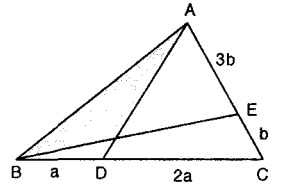
A) 6 B) 8 C) 9 D) 10 E) 12

6. ABC üçgeninde
 $IBEI = IECI = 8$ cm
 $IADI = IDCI = 6$ cm
 ise $IABI = x$ kaç
 cm'dir?



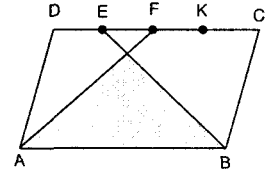
A) $2\sqrt{5}$ B) 6 C) $4\sqrt{5}$ D) 9 E) 10

7. Şekildeki ABC
 üçgeninde verilen
 kenar uzunluklarına
 göre taralı alan 12
 cm^2 ise $\triangle ABC$ kaç
 cm^2 dir?



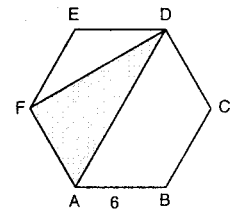
A) 48 B) 40 C) 38 D) 36 E) 34

8. ABCD paralelkenar
 ve IDCI dört eşit
 parçaya bölünmüştür.
 Taralı alan 32 br^2 ise
 $A(ABCD)$ kaç
 br^2 dir?



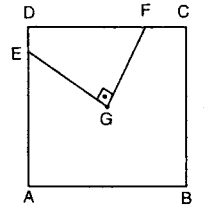
A) 80 B) 72 C) 68 D) 60 E) 56

9. ABCDEF düzgün altıgen
 ve $IABI = 6$ cm ise
 $A(\triangle ADF)$ kaç cm^2 dir?



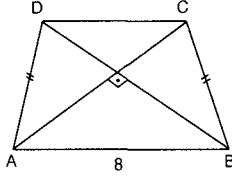
A) $18\sqrt{3}$ B) $20\sqrt{3}$ C) $24\sqrt{3}$
 D) $32\sqrt{3}$ E) $36\sqrt{3}$

10. Şekilde; G, ABCD karesinin
 ağırlık merkezidir.
 $IABI = 4$ cm ise
 $A(DEGF)$ kaç cm^2 dir?



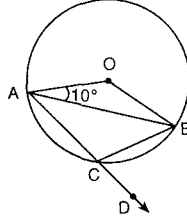
A) 4 B) 5 C) 6 D) 7 E) 8

11. ABCD ikizkenar yamuk
 $[AC] \perp [DB]$ ve
 $IAB = 2IDC = 8$ cm
 ise $A(ABCD)$ kaç cm^2 'dir?



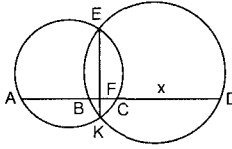
A) 32 B) 36 C) 42 D) 46 E) 64

12. O merkezli çemberde
 $m(\widehat{OAB}) = 10^\circ$ ise $m(\widehat{BCD})$
 kaç derecedir?



A) 70 B) 80 C) 90 D) 100 E) 110

13. Şekilde $[AD]$ doğrusal
 $IBFI = 1$ cm
 $IFCI = 3$ cm
 $IABI = 5$ cm
 $IEFI = 9$ cm
 $ICDI = x$ kaç cm'dir?



A) 12 B) 14 C) 15 D) 16 E) 18

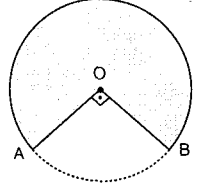
14. R^3 'te aşağıdakilerden hangisi yanlıştır?

- A) Kesişmeyen iki doğru düzlemsel olabilir.
 B) Kesişmeyen iki doğru düzlemsel olmayabilir.
 C) Bir düzleme dışındaki bir noktadan yalnız bir tane dikme çizilebilir.
 D) Kesişen iki düzlemin arakesiti bir doğrudur.
 E) Paralel olmayan iki doğru kesişir.

15. Yarıçapı 8 cm olan silindir şeklindeki kutunun bir kısmı su ile doludur. Bu kutunun içine bir kenarı a cm olan demir bir küp atılıyor ve küp suya tamamen batıyor. Su seviyesi $\frac{1}{\pi}$ cm yükseldiğine göre a kaçtır?

A) 2 B) 3 C) 4 D) 6 E) 8

16. Şekilde O merkezli daire verilmiştir.
 Taralı parçadan oluşan döne koninin taban alanı 36π cm^2 ise yanal alanı kaç cm^2 'dir?



A) 48π B) 50π C) 56π D) 64π E) 72π

17. $m \in \mathbb{N}^+$ olmak üzere
 $(m^2 - 3m - 10)x - 2y + 5 = 0$ doğrularının eğim açısının geniş açı olması için m kaç farklı değer alabilir?

A) 3 B) 4 C) 5 D) 6 E) 7

18. $(2k - 1)x + (k + 2)y + 3 - k = 0$ doğrularının geçtiği sabit noktanın orjine uzaklığı kaç birimdir?

A) 1 B) $\sqrt{2}$ C) $\sqrt{3}$ D) 2 E) 3

19. $(3, 6)$ noktasının denklemi $y = 2x - 10$ olan doğruya göre simetriği aşağıdakilerden hangisidir?

A) $(11, 2)$ B) $(5, 8)$ C) $(3, 12)$
 D) $(6, 12)$ E) $(-3, 2)$

20. $A(0, 2)$ ve $B(-1, 0)$ ise $\frac{|MA|}{|MB|} = 2$ olan M noktalarının geometrik yer denklemi aşağıdakilerden hangisidir?

A) $3x^2 + 3y^2 + 8x + 4y = 0$
 B) $3x^2 + 3y^2 + 4x + 4y + 4 = 0$
 C) $2x^2 + 2y^2 + 4x + 4y = 0$
 D) $2x^2 + 2y^2 + 8x + 4y = 0$
 E) $x^2 + y^2 + 4x + 4y - 2 = 0$

ÖSS DENEME SINAVI -12

1. Şekildeki ABC
üçgeninde
 $ABI = IDBI = IDC$

$$m(\hat{ABD}) = y^\circ$$

$$m(\hat{DBC}) = x^\circ$$

$$x + 4y = 140^\circ$$

ise $m(\hat{ABC})$ kaç derecedir?

- A) 60 B) 62 C) 64 D) 66 E) 68

2. Şekildeki ABC
üçgeninde
 $ABI = IDC$
 $IBE = IEC$

$$m(\hat{BAC}) = 70^\circ$$

ise $m(\hat{ABC})$ kaç derecedir?

- A) 60 B) 65 C) 70 D) 75 E) 80

3. Şekilde verilenlere
göre $A(\triangle ABC)$ kaç
 br^2 'dir?

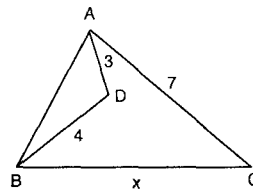
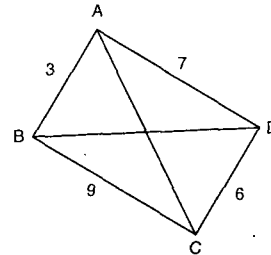
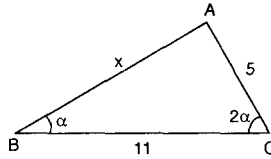
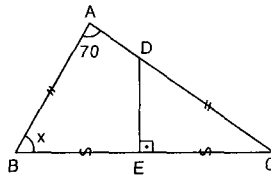
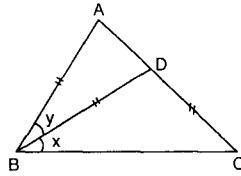
- A) 22 B) 32 C) 36 D) 40 E) 44

4. Şekilde verilenlere
göre
 $IACI + IBDI$ top-
lamının alabileceği
en büyük ve en
küçük tamsayı
değerleri toplamı
kaç br'dir?

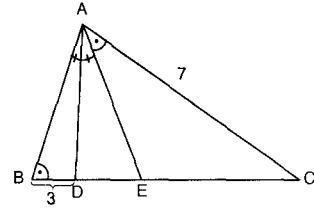
- A) 31 B) 32 C) 33 D) 34 E) 35

5. Şekilde verilenlere
göre x 'in en büyük
tamsayı değeri kaç
br'dir?

- A) 11 B) 12 C) 13 D) 14 E) 15



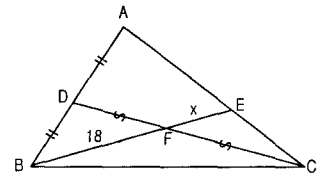
6.



Şekilde $m(\hat{ABC}) = m(\hat{EAC})$, $m(\hat{BAD}) = m(\hat{DAE})$,
 $IACI = 7$ br, $IBDI = 3$ br ise **$IBCI$ kaç br'dir?**

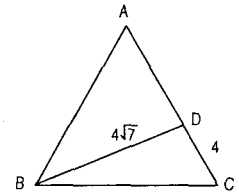
- A) 4 B) 6 C) 7 D) 10 E) 12

7. Şekildeki ABC
üçgeninde
 $IADI = IDBI$,
 $IDFI = IFCI$ ve
 $IBFI = 18$ br ise
 **$IFEI = x$ kaç
br'dir?**



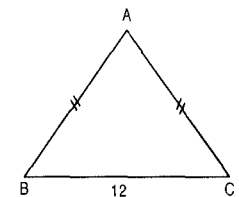
- A) 10 B) 9 C) 8 D) 7 E) 6

8. Şekildeki ABC eşkenar
üçgen ve
 $IBDI = 4\sqrt{7}$ br,
 $IDCI = 4$ br ise
 $A(\triangle ABC)$ kaç br^2 'dir?



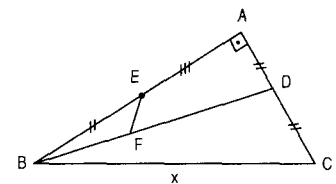
- A) $16\sqrt{3}$ B) $20\sqrt{3}$ C) $32\sqrt{3}$
D) $36\sqrt{3}$ E) $48\sqrt{3}$

9. Şekildeki ABC üçgeninde
 $IABI = IACI$, $IBCI = 12$ br
ve $m\hat{A} > 90^\circ$ ise
**ABC üçgeninin
çevresinin alabileceği
en büyük tamsayı
değeri kaç br'dir?**



- A) 21 B) 23 C) 27 D) 28 E) 29

10. Şekildeki ABC
dik üçgeninde
 $IADI = IDC$,
 $IAEI = IEBI$,
 $IFEI = 3$ br,
 $IBFI = 4$ br ve
 $IFDI = 8$ br ise
 **$IBCI = x$ kaç
br'dir?**



- A) 9 B) 12 C) 15 D) 18 E) 24

11. Aşağıdaki derecelerden hangisi düzgün konveks bir çokgenin bir iç açısının ölçüsü olamaz?

A) 144 B) 156 C) 162 D) 165 E) 166

12. ABCD dikdörtgen

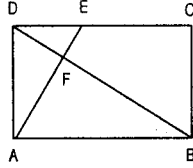
$$m(\hat{ADB}) = 2m(\hat{EAD})$$

$$\frac{|DE|}{|EC|} = \frac{5}{8}$$

$$|DA| = 5 \text{ br ise}$$

$$|DB| = x \text{ kaç br'dir?}$$

A) 8 B) 9 C) 10 D) 12 E) 13



13. ABCD paralelkenarında

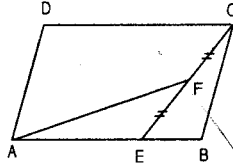
$$|EA| = 2|EB| \text{ ve}$$

$$|EF| = |FC| \text{ dir.}$$

$$A(AEF) = 8 \text{ cm}^2 \text{ ise}$$

$$A(ABCD) \text{ kaç cm}^2 \text{ dir?}$$

A) 32 B) 40 C) 48 D) 56 E) 64



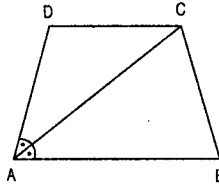
14. ABCD ikizkenar yamuğunda

$$m(\hat{BAC}) = m(\hat{DAC}) = 15^\circ$$

$$|AC| = 12 \text{ cm ise}$$

$$A(ABCD) \text{ kaç cm}^2 \text{ dir?}$$

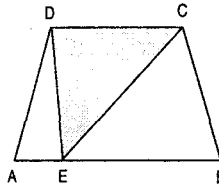
A) 24 B) 30 C) 36 D) 42 E) 48



15. Şekilde $|AB| = 2|DC|$ dir.

ABCD yamuğunun alanı, taralı alanın kaç katıdır?

A) $\frac{3}{2}$ B) 2 C) 3 D) $\frac{7}{2}$ E) 4



16. ABCD; kare ve

$$|AB| = 6 \text{ cm ise}$$

$$|BF| = x \text{ kaç cm'dir?}$$

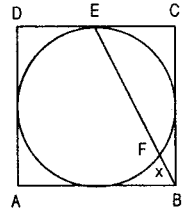
A) $\frac{2\sqrt{5}}{5}$

B) $\frac{3\sqrt{5}}{5}$

C) $\frac{4\sqrt{5}}{5}$

D) $\sqrt{5}$

E) $\frac{6\sqrt{5}}{5}$



17. Şekildeki kübün bir kenarı 4 cm'dir.

$$[KP] \perp [EC] \text{ ise } |KP| \text{ kaç cm'dir?}$$

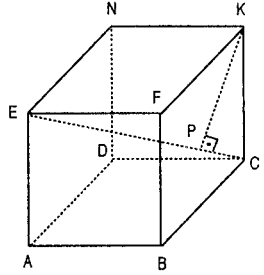
A) $\frac{\sqrt{6}}{2}$

B) $\frac{2\sqrt{6}}{3}$

C) $\frac{3\sqrt{6}}{4}$

D) $\sqrt{6}$

E) $\frac{4\sqrt{6}}{3}$



18. Bir dik piramit tabana olan uzaklığı, yüksekliğinin $\frac{1}{3}$ 'ü kadar olan, tabana paralel bir düzlemle kesiliyor. Üstte kalan küçük piramidin hacmi 40 cm³ olduğuna göre, kesik piramidin hacmi kaç cm³tür?

A) 45 B) 65 C) 80 D) 85 E) 95

19. A(2, 3) noktasının B(-1, 4) noktasına göre simetriği aşağıdakilerden hangisidir?

A) (-4, 5)

B) (-4, 6)

C) (-3, 5)

D) (-3, 6)

E) (-2, 6)

20. x eksenli üzerinde bulunan A(1, 3) ve B(5, 1) noktalarına uzaklıkları toplamı en küçük olan noktanın apsisi kaçtır?

A) 2

B) $\frac{5}{2}$

C) 3

D) $\frac{7}{2}$

E) 4

BÖLÜM-1

AÇILAR			
TEST-1	TEST-2	TEST-3	TEST-4
1. A	1. C	1. B	1. A
2. E	2. B	2. D	2. D
3. A	3. E	3. C	3. C
4. C	4. D	4. A	4. E
5. B	5. A	5. D	5. A
6. C	6. E	6. B	6. E
7. E	7. B	7. D	7. B
8. D	8. E	8. D	8. E
9. D	9. B	9. E	9. C
10. E	10. B	10. B	10. D
11. C	11. C	11. E	11. A
12. D	12. D	12. C	12. C
13. E	13. B	13. D	13. D
14. A	14. D	14. A	14. C
15. D	15. C	15. E	15. A
16. B	16. C	16. B	16. B
17. C	17. B	17. D	17. C
18. E	18. E	18. B	18. E
19. A	19. D	19. E	19. A
20. C	20. A	20. D	20. D

ÜÇGENDE AÇILAR					
TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6
1. E	1. C	1. E	1. E	1. E	1. E
2. D	2. E	2. B	2. E	2. D	2. E
3. D	3. E	3. C	3. C	3. B	3. B
4. B	4. C	4. D	4. B	4. A	4. E
5. A	5. E	5. A	5. A	5. B	5. E
6. E	6. D	6. D	6. B	6. C	6. C
7. C	7. B	7. D	7. E	7. B	7. D
8. C	8. D	8. B	8. B	8. D	8. C
9. D	9. D	9. A	9. C	9. E	9. A
10. B	10. A	10. A	10. B	10. D	10. D
11. A	11. C	11. C	11. A	11. B	11. E
12. E	12. E	12. C	12. E	12. C	12. C
13. B	13. A	13. C	13. B	13. E	13. D
14. C	14. C	14. B	14. D	14. B	14. E
15. E	15. C	15. C	15. E	15. E	15. B
16. D	16. A	16. E	16. A	16. B	16. C
17. D	17. B	17. A	17. D	17. D	17. C
18. B	18. B	18. C	18. A	18. D	18. A
19. E	19. C	19. D	19. C	19. D	19. C
20. C	20. A	20. B	20. D	20. E	20. B

ÜÇGENDE KENAR - AÇI BAĞINTILARI

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6
1. A	1. D	1. C	1. D	1. B	1. D
2. D	2. D	2. A	2. C	2. B	2. C
3. E	3. B	3. A	3. D	3. D	3. B
4. A	4. A	4. D	4. E	4. A	4. A
5. B	5. E	5. E	5. D	5. C	5. B
6. D	6. B	6. B	6. A	6. C	6. E
7. E	7. B	7. D	7. B	7. C	7. C
8. D	8. C	8. D	8. A	8. A	8. B
9. C	9. B	9. A	9. E	9. C	9. B
10. E	10. E	10. E	10. A	10. A	10. A
11. E	11. B	11. D	11. B	11. D	11. C
12. A	12. E	12. B	12. C	12. A	12. D
13. B	13. A	13. D	13. D	13. D	13. C
14. D	14. D	14. C	14. C	14. D	14. E
15. E	15. E	15. D	15. D	15. E	15. E
16. A	16. A	16. A	16. A	16. A	16. B
17. E	17. B	17. D	17. D	17. C	17. A
18. D	18. E	18. E	18. E	18. E	18. D
19. C	19. C	19. B	19. E	19. B	19. E
20. B	20. E	20. E	20. B	20. D	20. A

ÜÇGENDE AÇIORTAY

TEST-1	TEST-2	TEST-3	TEST-4
1. C	1. D	1. E	1. A
2. B	2. C	2. D	2. E
3. E	3. E	3. A	3. A
4. C	4. B	4. B	4. C
5. A	5. A	5. C	5. D
6. D	6. E	6. E	6. A
7. E	7. A	7. A	7. E
8. A	8. B	8. C	8. B
9. B	9. E	9. B	9. D
10. D	10. D	10. C	10. C
11. D	11. D	11. D	11. B
12. E	12. E	12. B	12. D
13. C	13. A	13. A	13. E
14. A	14. B	14. E	14. D
15. B	15. C	15. A	15. A
16. E	16. D	16. C	16. A
17. D	17. A	17. C	17. E
18. B	18. E	18. D	18. B
19. A	19. C	19. E	19. D
20. C	20. D	20. E	20. C

ÜÇGENDE KENARORTAY

TEST-1	TEST-2	TEST-3	TEST-4
1. C	1. C	1. C	1. C
2. B	2. D	2. B	2. B
3. D	3. E	3. A	3. B
4. D	4. E	4. D	4. C
5. D	5. E	5. E	5. C
6. B	6. C	6. B	6. A
7. B	7. E	7. E	7. A
8. A	8. B	8. B	8. B
9. A	9. B	9. A	9. E
10. B	10. D	10. C	10. C
11. C	11. E	11. D	11. A
12. B	12. E	12. A	12. A
13. A	13. C	13. D	13. A
14. D	14. E	14. E	14. C
15. B	15. B	15. D	15. A
16. B	16. B	16. B	16. C
17. D	17. A	17. D	17. E
18. D	18. B	18. A	18. C
19. C	19. E	19. A	19. A
20. C	20. C	20. A	20. B

ÜÇGENDE KESEN TEOREMLERİ

TEST-1	TEST-2
1. C	1. B
2. C	2. B
3. E	3. C
4. D	4. E
5. E	5. D
6. D	6. A
7. A	7. C
8. D	8. D
9. D	9. E
10. D	10. C
11. A	11. B
12. A	12. D
13. A	13. D
14. D	14. A
15. C	15. A
16. C	16. D
17. D	17. E
18. C	18. B
19. B	19. D
20. B	20. D

DİK ÜÇGEN			
TEST-1	TEST-2	TEST-3	TEST-4
1. C	1. B	1. C	1. E
2. A	2. C	2. C	2. C
3. D	3. B	3. E	3. E
4. B	4. C	4. D	4. B
5. A	5. B	5. C	5. C
6. B	6. A	6. B	6. E
7. C	7. C	7. D	7. E
8. C	8. D	8. A	8. E
9. A	9. A	9. B	9. B
10. B	10. C	10. D	10. E
11. D	11. E	11. A	11. B
12. D	12. B	12. A	12. B
13. C	13. A	13. D	13. B
14. A	14. C	14. E	14. D
15. E	15. C	15. C	15. C
16. B	16. C	16. C	16. A
17. C	17. C	17. E	17. D
18. B	18. B	18. B	18. C
19. C	19. B	19. B	19. D
20. B	20. C	20. C	20. C

İKİZKENAR VE EŞKENAR ÜÇGEN					
TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6
1. A	1. C	1. D	1. B	1. B	1. C
2. D	2. A	2. C	2. D	2. E	2. E
3. D	3. E	3. E	3. C	3. C	3. D
4. C	4. D	4. C	4. A	4. D	4. B
5. E	5. D	5. E	5. E	5. A	5. B
6. C	6. C	6. E	6. C	6. C	6. A
7. A	7. B	7. B	7. D	7. D	7. D
8. D	8. C	8. D	8. A	8. B	8. A
9. D	9. A	9. C	9. C	9. C	9. C
10. D	10. D	10. B	10. D	10. E	10. C
11. C	11. B	11. A	11. B	11. A	11. B
12. E	12. C	12. E	12. A	12. B	12. D
13. A	13. C	13. E	13. A	13. A	13. E
14. D	14. A	14. B	14. B	14. C	14. D
15. E	15. D	15. C	15. A	15. D	15. A
16. B	16. E	16. C	16. E	16. E	16. B
17. C	17. E	17. C	17. B	17. E	17. B
18. B	18. D	18. D	18. E	18. B	18. E
19. B	19. A	19. A	19. D	19. A	19. D
20. A	20. B	20. B	20. A	20. E	20. A

ÜÇGENDE BENZERLİK							
TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6	TEST-7	TEST-8
1. B	1. E	1. D	1. C	1. E	1. D	1. A	1. D
2. C	2. A	2. C	2. A	2. C	2. A	2. C	2. A
3. E	3. C	3. B	3. E	3. A	3. E	3. D	3. C
4. A	4. E	4. B	4. C	4. D	4. B	4. B	4. C
5. D	5. A	5. D	5. C	5. E	5. B	5. D	5. E
6. B	6. E	6. C	6. D	6. C	6. E	6. C	6. D
7. D	7. C	7. E	7. D	7. B	7. C	7. B	7. C
8. E	8. C	8. A	8. D	8. B	8. A	8. B	8. C
9. E	9. A	9. B	9. A	9. C	9. B	9. B	9. C
10. B	10. D	10. C	10. D	10. C	10. E	10. C	10. E
11. B	11. D	11. C	11. B	11. C	11. D	11. A	11. C
12. C	12. D	12. E	12. E	12. E	12. D	12. A	12. E
13. B	13. C	13. D	13. D	13. E	13. B	13. A	13. D
14. D	14. C	14. E	14. C	14. A	14. D	14. C	14. A
15. C	15. E	15. B	15. B	15. A	15. E	15. B	15. A
16. C	16. A	16. C	16. D	16. C	16. A	16. E	16. B
17. A	17. B	17. C	17. E	17. C	17. D	17. E	17. C
18. B	18. D	18. C	18. A	18. C	18. C	18. A	18. C
19. D	19. C	19. D	19. A	19. E	19. B	19. D	19. D
20. E	20. B	20. B	20. C	20. B	20. E	20. D	20. B

ÜÇGENDE ALAN

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6	TEST-7	TEST-8
1. B	1. B	1. A	1. A	1. A	1. B	1. C	1. D
2. C	2. D	2. E	2. D	2. A	2. C	2. C	2. B
3. A	3. E	3. C	3. C	3. E	3. D	3. C	3. A
4. C	4. C	4. C	4. E	4. D	4. C	4. D	4. A
5. D	5. B	5. A	5. D	5. D	5. C	5. B	5. C
6. E	6. B	6. B	6. D	6. E	6. C	6. C	6. E
7. D	7. E	7. E	7. B	7. E	7. C	7. A	7. A
8. E	8. A	8. B	8. A	8. A	8. D	8. C	8. C
9. E	9. B	9. B	9. B	9. C	9. D	9. C	9. E
10. A	10. E	10. D	10. D	10. C	10. C	10. B	10. C
11. A	11. E	11. C	11. A	11. D	11. E	11. D	11. D
12. C	12. B	12. B	12. C	12. B	12. C	12. C	12. A
13. C	13. E	13. A	13. C	13. C	13. B	13. C	13. D
14. D	14. C	14. A	14. B	14. A	14. D	14. B	14. B
15. C	15. A	15. A	15. D	15. B	15. D	15. B	15. C
16. D	16. A	16. C	16. C	16. C	16. D	16. B	16. D
17. C	17. A	17. E	17. A	17. E	17. B	17. C	17. A
18. C	18. D	18. D	18. B	18. C	18. E	18. B	18. C
19. C	19. B	19. D	19. D	19. E	19. E	19. D	19. E
20. E	20. E	20. A	20. B	20. D	20. C	20. E	20. C

TARAMA TESTLERİ

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6	TEST-7
1. C	1. A	1. E	1. D	1. E	1. B	1. A
2. B	2. A	2. D	2. E	2. D	2. E	2. A
3. E	3. D	3. B	3. E	3. E	3. D	3. E
4. C	4. A	4. B	4. B	4. E	4. B	4. A
5. A	5. B	5. C	5. C	5. C	5. C	5. D
6. C	6. C	6. B	6. C	6. D	6. D	6. C
7. B	7. E	7. C	7. B	7. C	7. D	7. B
8. A	8. C	8. E	8. E	8. C	8. B	8. D
9. D	9. B	9. C	9. A	9. B	9. A	9. D
10. A	10. C	10. C	10. B	10. A	10. B	10. D
11. A	11. A	11. C	11. C	11. D	11. B	11. C
12. D	12. B	12. B	12. C	12. E	12. B	12. C
13. A	13. C	13. E	13. D	13. C	13. E	13. E
14. E	14. D	14. D	14. A	14. B	14. C	14. D
15. D	15. E	15. A	15. B	15. D	15. C	15. C
16. B	16. D	16. B	16. D	16. B	16. C	16. B
17. A	17. C	17. B	17. D	17. C	17. D	17. C
18. E	18. A	18. C	18. C	18. D	18. C	18. D
19. C	19. E	19. A	19. C	19. A	19. B	19. B
20. D	20. D	20. E	20. B	20. D	20. C	20. B

TEST-8	TEST-9	TEST-10	TEST-11	TEST-12	TEST-13	TEST-14
1. D	1. D	1. B	1. B	1. A	1. C	1. E
2. A	2. A	2. A	2. D	2. E	2. B	2. D
3. E	3. C	3. E	3. E	3. B	3. A	3. C
4. E	4. A	4. C	4. E	4. C	4. D	4. C
5. B	5. A	5. E	5. E	5. C	5. E	5. D
6. C	6. C	6. B	6. B	6. B	6. E	6. A
7. C	7. C	7. C	7. B	7. B	7. E	7. A
8. B	8. D	8. C	8. D	8. C	8. C	8. E
9. C	9. A	9. A	9. B	9. C	9. E	9. C
10. B	10. C	10. C	10. C	10. A	10. A	10. C
11. B	11. E	11. C	11. D	11. D	11. B	11. A
12. E	12. B	12. D	12. D	12. B	12. C	12. E
13. A	13. B	13. B	13. A	13. E	13. E	13. A
14. C	14. A	14. C	14. A	14. E	14. B	14. B
15. C	15. D	15. C	15. A	15. B	15. E	15. E
16. D	16. C	16. B	16. C	16. B	16. B	16. D
17. B	17. C	17. A	17. B	17. B	17. A	17. D
18. D	18. A	18. A	18. C	18. B	18. A	18. B
19. B	19. C	19. A	19. C	19. C	19. C	19. A
20. B	20. B	20. C	20. E	20. C	20. C	20. D

BÖLÜM-2

ÇOKGENLER VE DORTGENLER			
TEST-1	TEST-2	TEST-3	TEST-4
1. E	1. D	1. E	1. B
2. D	2. A	2. D	2. A
3. D	3. D	3. A	3. C
4. B	4. C	4. D	4. E
5. A	5. A	5. E	5. C
6. C	6. C	6. C	6. D
7. B	7. D	7. C	7. C
8. B	8. D	8. D	8. C
9. D	9. B	9. E	9. C
10. C	10. C	10. B	10. C
11. C	11. B	11. E	11. B
12. B	12. D	12. B	12. D
13. A	13. D	13. B	13. D
14. E	14. D	14. E	14. B
15. C	15. E	15. E	15. B
16. A	16. B	16. D	16. E
17. D	17. D	17. C	17. C
18. B	18. D	18. D	18. D
19. B	19. E	19. A	19. A
20. D	20. A	20. A	20. D

PARALELKENAR					
TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6
1. A	1. C	1. D	1. A	1. A	1. E
2. B	2. C	2. E	2. A	2. E	2. D
3. D	3. B	3. D	3. C	3. D	3. C
4. C	4. D	4. D	4. B	4. C	4. C
5. C	5. A	5. C	5. B	5. D	5. B
6. E	6. E	6. D	6. C	6. C	6. C
7. C	7. C	7. C	7. B	7. B	7. D
8. C	8. A	8. E	8. E	8. C	8. C
9. C	9. A	9. B	9. D	9. A	9. E
10. B	10. C	10. B	10. B	10. E	10. C
11. E	11. D	11. A	11. D	11. C	11. D
12. E	12. D	12. E	12. B	12. B	12. D
13. B	13. B	13. B	13. D	13. C	13. B
14. B	14. C	14. D	14. A	14. E	14. A
15. C	15. A	15. C	15. A	15. C	15. D
16. D	16. B	16. C	16. E	16. E	16. D
17. E	17. A	17. B	17. E	17. E	17. C
18. E	18. D	18. E	18. B	18. A	18. D
19. D	19. B	19. E	19. C	19. A	19. C
20. B	20. B	20. E	20. C	20. A	20. A

DİKDÖRTGEN			
TEST-1	TEST-2	TEST-3	TEST-4
1. C	1. B	1. C	1. C
2. E	2. A	2. C	2. B
3. B	3. D	3. B	3. E
4. D	4. D	4. D	4. D
5. C	5. C	5. A	5. A
6. E	6. D	6. C	6. C
7. A	7. E	7. D	7. D
8. D	8. E	8. E	8. A
9. A	9. C	9. D	9. E
10. D	10. B	10. B	10. D
11. C	11. A	11. B	11. B
12. C	12. D	12. D	12. C
13. D	13. D	13. E	13. E
14. B	14. E	14. A	14. A
15. D	15. B	15. C	15. D
16. D	16. C	16. B	16. D
17. A	17. C	17. D	17. D
18. C	18. B	18. A	18. B
19. E	19. C	19. D	19. A
20. D	20. A	20. D	20. C

KARE

TEST-1	TEST-2	TEST-3	TEST-4
1. A	1. D	1. C	1. A
2. E	2. D	2. D	2. E
3. D	3. D	3. A	3. D
4. E	4. D	4. B	4. D
5. C	5. B	5. B	5. B
6. B	6. C	6. C	6. B
7. B	7. A	7. A	7. B
8. B	8. E	8. E	8. E
9. C	9. A	9. C	9. B
10. D	10. A	10. B	10. D
11. A	11. D	11. B	11. B
12. B	12. C	12. B	12. A
13. B	13. C	13. C	13. D
14. D	14. E	14. A	14. B
15. E	15. D	15. E	15. E
16. A	16. C	16. C	16. D
17. A	17. D	17. A	17. A
18. D	18. D	18. C	18. D
19. A	19. D	19. E	19. A
20. A	20. D	20. E	20. D

EŞKENAR DÖRTGEN-DELTOİT

TEST-1	TEST-2	TEST-3	TEST-4
1. C	1. A	1. E	1. D
2. C	2. C	2. D	2. C
3. E	3. D	3. D	3. A
4. B	4. B	4. A	4. C
5. E	5. E	5. A	5. B
6. A	6. A	6. D	6. A
7. D	7. B	7. C	7. E
8. E	8. D	8. B	8. C
9. B	9. C	9. E	9. A
10. C	10. C	10. E	10. C
11. A	11. C	11. C	11. B
12. C	12. C	12. B	12. A
13. C	13. C	13. E	13. D
14. C	14. D	14. C	14. E
15. D	15. A	15. A	15. C
16. E	16. B	16. A	16. E
17. A	17. C	17. B	17. D
18. A	18. D	18. A	18. E
19. A	19. D	19. E	19. A
20. A	20. B	20. E	20. A

YAMUK

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6
1. C	1. A	1. C	1. B	1. C	1. B
2. A	2. C	2. A	2. C	2. E	2. C
3. D	3. D	3. D	3. C	3. C	3. E
4. B	4. B	4. D	4. B	4. D	4. D
5. A	5. A	5. E	5. D	5. B	5. C
6. D	6. B	6. D	6. E	6. C	6. B
7. C	7. A	7. C	7. D	7. B	7. E
8. B	8. C	8. C	8. E	8. E	8. A
9. E	9. C	9. D	9. A	9. C	9. D
10. C	10. E	10. B	10. E	10. C	10. B
11. E	11. D	11. E	11. D	11. A	11. D
12. E	12. B	12. D	12. D	12. D	12. B
13. B	13. D	13. B	13. B	13. B	13. C
14. B	14. C	14. D	14. C	14. A	14. C
15. C	15. A	15. D	15. A	15. E	15. C
16. D	16. D	16. C	16. C	16. E	16. D
17. B	17. D	17. C	17. D	17. E	17. B
18. E	18. B	18. D	18. C	18. A	18. E
19. C	19. A	19. C	19. B	19. D	19. C
20. E	20. C	20. A	20. C	20. C	20. C

TARAMA TESTLERİ

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6	TEST-7
1. D	1. C	1. D	1. E	1. A	1. B	1. D
2. B	2. A	2. A	2. A	2. E	2. E	2. E
3. D	3. B	3. D	3. C	3. C	3. D	3. D
4. B	4. E	4. B	4. B	4. B	4. E	4. A
5. D	5. E	5. E	5. B	5. A	5. C	5. E
6. C	6. D	6. E	6. C	6. D	6. C	6. D
7. D	7. C	7. D	7. C	7. B	7. A	7. B
8. A	8. A	8. E	8. D	8. C	8. C	8. D
9. E	9. B	9. E	9. D	9. A	9. E	9. E
10. B	10. D	10. A	10. A	10. E	10. D	10. C
11. E	11. B	11. A	11. B	11. B	11. B	11. E
12. A	12. E	12. C	12. C	12. C	12. A	12. E
13. C	13. E	13. B	13. D	13. D	13. A	13. B
14. A	14. D	14. C	14. E	14. D	14. E	14. A
15. E	15. A	15. E	15. C	15. C	15. D	15. C
16. E	16. C	16. D	16. A	16. A	16. C	16. C
17. B	17. B	17. E	17. A	17. B	17. B	17. B
18. D	18. B	18. E	18. B	18. E	18. C	18. D
19. D	19. C	19. A	19. B	19. D	19. B	19. B
20. C	20. B	20. D	20. D	20. C	20. D	20. D

TEST-8	TEST-9	TEST-10	TEST-11	TEST-12	TEST-13
1. D	1. B	1. E	1. C	1. D	1. B
2. C	2. C	2. B	2. B	2. D	2. A
3. E	3. C	3. A	3. C	3. C	3. C
4. D	4. B	4. D	4. D	4. B	4. E
5. C	5. D	5. C	5. A	5. A	5. C
6. C	6. C	6. A	6. C	6. D	6. E
7. D	7. C	7. D	7. E	7. A	7. C
8. B	8. B	8. C	8. D	8. E	8. A
9. E	9. C	9. B	9. B	9. B	9. B
10. B	10. C	10. B	10. A	10. C	10. E
11. C	11. B	11. C	11. B	11. C	11. C
12. C	12. E	12. D	12. D	12. D	12. A
13. C	13. E	13. D	13. C	13. E	13. A
14. D	14. C	14. E	14. D	14. A	14. A
15. D	15. E	15. B	15. A	15. E	15. C
16. E	16. A	16. B	16. D	16. B	16. B
17. A	17. A	17. B	17. B	17. D	17. E
18. B	18. C	18. D	18. A	18. E	18. C
19. E	19. E	19. C	19. C	19. A	19. B
20. C	20. C	20. A	20. B	20. E	20. B

BÖLÜM-3

ÇEMBERDE TEĞET-KIRIŞ ÖZELİKLERİ			
TEST-1	TEST-2	TEST-3	TEST-4
1. A	1. C	1. D	1. E
2. C	2. B	2. B	2. E
3. E	3. D	3. E	3. A
4. A	4. E	4. C	4. D
5. E	5. C	5. A	5. B
6. D	6. A	6. E	6. A
7. B	7. D	7. D	7. B
8. C	8. E	8. B	8. E
9. A	9. B	9. B	9. C
10. B	10. A	10. C	10. B
11. A	11. D	11. E	11. E
12. B	12. D	12. D	12. B
13. D	13. C	13. E	13. B
14. B	14. E	14. B	14. E
15. C	15. B	15. C	15. C
16. E	16. A	16. B	16. A
17. D	17. D	17. A	17. A
18. D	18. D	18. C	18. E
19. A	19. B	19. D	19. B
20. E	20. E	20. D	20. C

ÇEMBERDE AÇILAR					
TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6
1. B	1. D	1. E	1. D	1. A	1. C
2. E	2. C	2. A	2. C	2. B	2. D
3. C	3. A	3. D	3. A	3. C	3. A
4. A	4. B	4. C	4. B	4. D	4. E
5. D	5. E	5. B	5. E	5. E	5. B
6. D	6. E	6. B	6. B	6. B	6. B
7. C	7. B	7. B	7. D	7. D	7. A
8. B	8. D	8. D	8. E	8. C	8. D
9. A	9. A	9. A	9. A	9. E	9. C
10. D	10. E	10. E	10. A	10. A	10. A
11. C	11. C	11. C	11. B	11. D	11. C
12. A	12. D	12. B	12. D	12. E	12. D
13. B	13. B	13. A	13. C	13. B	13. B
14. D	14. A	14. D	14. A	14. C	14. A
15. E	15. E	15. E	15. D	15. A	15. E
16. D	16. B	16. A	16. C	16. B	16. B
17. E	17. A	17. C	17. A	17. D	17. A
18. A	18. B	18. C	18. B	18. E	18. E
19. B	19. E	19. E	19. C	19. A	19. D
20. C	20. C	20. A	20. D	20. E	20. D

ÇEMBERDE KESEN ÖZELİKLERİ VE KUVVET

TEST-1	TEST-2	TEST-3	TEST-4
1. D	1. A	1. C	1. E
2. E	2. E	2. B	2. B
3. D	3. C	3. E	3. A
4. A	4. B	4. A	4. C
5. C	5. A	5. E	5. B
6. B	6. D	6. D	6. D
7. B	7. E	7. C	7. A
8. E	8. C	8. B	8. E
9. D	9. A	9. A	9. B
10. C	10. B	10. D	10. A
11. A	11. A	11. E	11. C
12. E	12. D	12. D	12. D
13. C	13. D	13. B	13. B
14. A	14. E	14. C	14. C
15. D	15. C	15. B	15. D
16. A	16. E	16. A	16. D
17. B	17. B	17. E	17. A
18. B	18. D	18. C	18. B
19. E	19. C	19. D	19. B
20. D	20. A	20. A	20. C

ÇEMBERDE ÇEVRE-ALAN-BENZERLİK

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6
1. B	1. B	1. A	1. C	1. D	1. A
2. A	2. A	2. D	2. A	2. B	2. B
3. D	3. C	3. C	3. C	3. A	3. E
4. C	4. D	4. E	4. E	4. E	4. D
5. C	5. E	5. B	5. B	5. C	5. C
6. C	6. C	6. B	6. A	6. E	6. B
7. B	7. D	7. A	7. C	7. D	7. C
8. A	8. A	8. B	8. E	8. A	8. C
9. E	9. A	9. D	9. D	9. C	9. D
10. D	10. E	10. E	10. B	10. B	10. A
11. C	11. D	11. A	11. A	11. C	11. D
12. B	12. E	12. E	12. D	12. D	12. B
13. A	13. B	13. B	13. B	13. A	13. A
14. E	14. A	14. A	14. E	14. B	14. C
15. D	15. C	15. C	15. C	15. B	15. C
16. D	16. C	16. E	16. D	16. E	16. B
17. B	17. D	17. A	17. A	17. A	17. A
18. A	18. A	18. B	18. E	18. A	18. A
19. C	19. E	19. D	19. C	19. C	19. E
20. E	20. E	20. D	20. C	20. C	20. E

TARAMA TESTLERİ

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6
1. D	1. C	1. E	1. E	1. C	1. D
2. D	2. D	2. D	2. C	2. D	2. C
3. B	3. D	3. D	3. E	3. B	3. D
4. D	4. B	4. B	4. D	4. B	4. A
5. D	5. C	5. C	5. B	5. D	5. A
6. C	6. B	6. B	6. D	6. E	6. E
7. E	7. E	7. D	7. A	7. A	7. B
8. B	8. D	8. B	8. A	8. D	8. A
9. D	9. D	9. E	9. C	9. E	9. D
10. A	10. B	10. E	10. B	10. C	10. C
11. B	11. C	11. B	11. E	11. E	11. A
12. A	12. E	12. C	12. E	12. D	12. D
13. C	13. C	13. D	13. C	13. B	13. C
14. B	14. E	14. C	14. D	14. D	14. B
15. A	15. B	15. E	15. A	15. A	15. B
16. A	16. A	16. B	16. B	16. C	16. B
17. E	17. C	17. B	17. B	17. B	17. B
18. C	18. D	18. E	18. C	18. D	18. C
19. B	19. D	19. D	19. D	19. B	19. D
20. C	20. C	20. D	20. D	20. D	20. B

TEST-7	TEST-8	TEST-9	TEST-10	TEST-11	TEST-12
1. B	1. D	1. A	1. C	1. C	1. A
2. D	2. A	2. D	2. E	2. B	2. E
3. C	3. A	3. A	3. A	3. C	3. B
4. D	4. B	4. C	4. D	4. E	4. A
5. C	5. C	5. B	5. D	5. A	5. A
6. C	6. C	6. C	6. C	6. D	6. C
7. C	7. B	7. C	7. E	7. C	7. D
8. E	8. B	8. E	8. B	8. B	8. B
9. A	9. D	9. D	9. D	9. C	9. A
10. B	10. B	10. C	10. D	10. B	10. D
11. E	11. E	11. B	11. A	11. A	11. B
12. B	12. E	12. C	12. A	12. C	12. D
13. A	13. C	13. E	13. C	13. D	13. A
14. C	14. B	14. C	14. C	14. B	14. D
15. A	15. B	15. A	15. C	15. B	15. C
16. B	16. C	16. E	16. D	16. C	16. A
17. E	17. A	17. C	17. D	17. C	17. D
18. B	18. B	18. D	18. E	18. A	18. C
19. D	19. A	19. D	19. E	19. E	19. D
20. B	20. B	20. C	20. E	20. B	20. E

BÖLÜM-4

DUZLEMDE AKSIYOM VE TEOREMLER

TEST-1	TEST-2
1. C	1. D
2. B	2. C
3. E	3. E
4. E	4. B
5. B	5. D
6. A	6. D
7. D	7. A
8. C	8. B
9. B	9. A
10. A	10. E
11. E	11. A
12. D	12. E
13. C	13. D
14. B	14. C
15. A	15. C
16. D	16. C
17. C	17. E
18. B	18. C
19. E	19. B
20. C	20. C

PRİZMALAR

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5
1. D	1. C	1. D	1. C	1. B
2. A	2. E	2. B	2. D	2. B
3. A	3. B	3. A	3. D	3. B
4. B	4. D	4. B	4. B	4. C
5. E	5. A	5. A	5. D	5. A
6. D	6. C	6. C	6. B	6. E
7. C	7. C	7. A	7. E	7. E
8. C	8. B	8. D	8. A	8. E
9. B	9. D	9. B	9. A	9. D
10. C	10. E	10. B	10. D	10. B
11. D	11. A	11. B	11. C	11. B
12. A	12. B	12. D	12. C	12. B
13. B	13. B	13. C	13. E	13. B
14. D	14. D	14. B	14. B	14. D
15. E	15. D	15. D	15. B	15. C
16. C	16. B	16. D	16. C	16. C
17. D	17. C	17. D	17. A	17. C
18. C	18. E	18. B	18. D	18. C
19. E	19. A	19. E	19. D	19. C
20. B	20. C	20. B	20. E	20. B

PIRAMİTLER

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5
1. C	1. D	1. A	1. E	1. C
2. D	2. C	2. D	2. C	2. E
3. E	3. B	3. A	3. C	3. A
4. E	4. A	4. A	4. C	4. C
5. D	5. D	5. D	5. C	5. D
6. D	6. A	6. E	6. D	6. A
7. B	7. C	7. C	7. C	7. C
8. C	8. E	8. E	8. D	8. C
9. E	9. D	9. E	9. C	9. B
10. C	10. D	10. E	10. A	10. C
11. A	11. D	11. A	11. C	11. C
12. C	12. D	12. C	12. A	12. D
13. E	13. E	13. C	13. C	13. C
14. E	14. E	14. A	14. B	14. B
15. C	15. A	15. C	15. E	15. E
16. B	16. B	16. D	16. E	16. E
17. C	17. A	17. D	17. B	17. E
18. D	18. C	18. B	18. C	17. B
19. D	19. B	19. B	19. B	19. B
20. A	20. D	20. B	20. A	20. B

TARAMA TESTLERİ

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6	TEST-7	TEST-8	TEST-9	TEST-10
1. E	1. D	1. D	1. D	1. E	1. B	1. E	1. D	1. D	1. E
2. D	2. D	2. B	2. E	2. C	2. C	2. E	2. B	2. D	2. C
3. E	3. E	3. E	3. D	3. C	3. D	3. C	3. A	3. E	3. D
4. B	4. C	4. C	4. D	4. B	4. A	4. B	4. A	4. C	4. C
5. D	5. E	5. D	5. B	5. D	5. A	5. D	5. A	5. B	5. B
6. C	6. E	6. B	6. C	6. D	6. E	6. D	6. C	6. A	6. E
7. D	7. C	7. D	7. B	7. D	7. D	7. E	7. B	7. D	7. B
8. C	8. D	8. E	8. D	8. D	8. A	8. C	8. D	8. E	8. C
9. C	9. B	9. E	9. E	9. D	9. E	9. D	9. E	9. E	9. A
10. A	10. B	10. A	10. B	10. E	10. D	10. B	10. B	10. C	10. A
11. E	11. E	11. D	11. C	11. A	11. C	11. E	11. C	11. E	11. E
12. E	12. D	12. E	12. A	12. A	12. C	12. D	12. C	12. D	12. C
13. D	13. D	13. C	13. E	13. D	13. B	13. C	13. D	13. A	13. D
14. D	14. D	14. B	14. B	14. C	14. D	14. D	14. A	14. A	14. D
15. A	15. C	15. D	15. B	15. D	15. A	15. A	15. E	15. C	15. D
16. D	16. A	16. B	16. A	16. E	16. A	16. C	16. C	16. A	16. A
17. B	17. E	17. E	17. A	17. C	17. C	17. E	17. D	17. C	17. E
18. C	18. A	18. D	18. A	18. B	18. C	18. C	18. D	18. A	18. C
19. D	19. D	19. D	19. E	19. D	19. E	19. B	19. A	19. C	19. B
20. E	20. D	20. C	20. C	20. E	20. D	20. E	20. C	20. B	20. A

ÖSS DENEME SINAVLARI

TEST-1	TEST-2	TEST-3	TEST-4	TEST-5	TEST-6
1. B	1. E	1. A	1. B	1. D	1. D
2. D	2. C	2. D	2. C	2. B	2. D
3. D	3. D	3. B	3. D	3. A	3. D
4. A	4. A	4. C	4. E	4. B	4. E
5. C	5. E	5. E	5. A	5. E	5. A
6. E	6. C	6. E	6. E	6. C	6. C
7. B	7. B	7. B	7. A	7. A	7. D
8. B	8. D	8. C	8. D	8. D	8. B
9. C	9. A	9. B	9. A	9. B	9. E
10. C	10. E	10. E	10. C	10. E	10. A
11. A	11. D	11. C	11. B	11. C	11. E
12. E	12. C	12. E	12. E	12. A	12. B
13. B	13. B	13. C	13. A	13. D	13. C
14. D	14. E	14. A	14. B	14. C	14. C
15. C	15. D	15. D	15. E	15. B	15. D
16. B	16. A	16. B	16. E	16. A	16. B
17. A	17. C	17. B	17. C	17. E	17. E
18. E	18. B	18. D	18. E	18. D	18. D
19. D	19. E	19. A	19. A	19. E	19. B
20. B	20. D	20. E	20. C	20. B	20. B
TEST-7	TEST-8	TEST-9	TEST-10	TEST-11	TEST-12
1. E	1. B	1. C	1. B	1. E	1. C
2. D	2. C	2. A	2. E	2. C	2. D
3. C	3. B	3. C	3. B	3. C	3. A
4. A	4. D	4. B	4. C	4. A	4. B
5. E	5. C	5. D	5. C	5. C	5. C
6. E	6. B	6. C	6. C	6. C	6. D
7. A	7. C	7. C	7. A	7. B	7. E
8. A	8. C	8. C	8. B	8. A	8. D
9. A	9. A	9. D	9. A	9. A	9. E
10. C	10. C	10. D	10. D	10. A	10. D
11. A	11. B	11. B	11. C	11. B	11. E
12. C	12. C	12. C	12. B	12. B	12. A
13. C	13. D	13. B	13. C	13. C	13. C
14. B	14. D	14. D	14. D	14. E	14. C
15. A	15. A	15. B	15. C	15. C	15. C
16. E	16. B	16. B	16. A	16. E	16. B
17. D	17. B	17. D	17. E	17. B	17. E
18. A	18. C	18. B	18. C	18. B	18. E
19. D	19. D	19. D	19. E	19. A	19. A
20. C	20. C	20. A	20. A	20. A	20. E