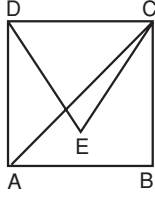


TEST 2 Kare ve Dikdörtgen

1.



DEC eşkenar üçgen olduğundan

$$|DE| = |EC| = |CD| = |BC|$$

$$= |AB| = |AD| \text{ olur.}$$

$$|DC| = |CE| = |DE| = a \text{ olsun.}$$

$$A(\widehat{DEC}) = \frac{a^2 \cdot \sqrt{3}}{4} = 25\sqrt{3}$$

$$= a^2 = 100$$

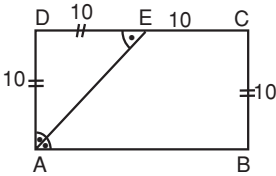
$$\Rightarrow a = 10 \text{ br bulunur.}$$

$$Ç(ABCD) = 4 \cdot a = 4 \cdot 10$$

$$= 40 \text{ cm bulunur.}$$

Cevap: D

2.



$$s(\widehat{EAB}) = s(\widehat{AED}) \text{ (İç ters açılar)}$$

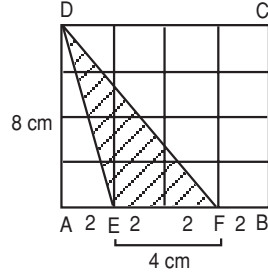
$$\Rightarrow |DE| = |DA| = |BC| \text{ olur.}$$

$$\Rightarrow A(ABCD) = |DA| \cdot |AB|$$

$$= 10 \cdot 20 = 200 \text{ cm}^2$$

Cevap: A

3.



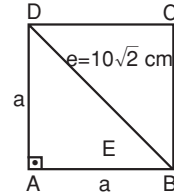
$$A(\widehat{DEF}) = \frac{|DA| \cdot |EF|}{2}$$

$$= \frac{8 \cdot 4}{2}$$

$$= \frac{32}{2} = 16 \text{ cm}^2$$

Cevap: A

4.



$$a^2 + a^2 = e^2 \text{ (Pisagor)}$$

$$2a^2 = e^2$$

$$\sqrt{2a^2} = \sqrt{e^2}$$

$$a\sqrt{2} = e$$

$$a\sqrt{2} = 10\sqrt{2}$$

$$a = 10$$

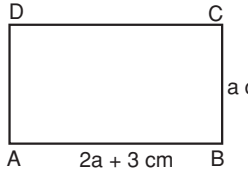
$$A = a^2$$

$$= 10^2$$

$$= 100 \text{ cm}^2$$

Cevap: C

5.



$$\text{Ç}(ABCD) = 42 \text{ cm}$$

$$a + a + 2a + 3 + 2a + 3 = 42$$

$$6a + 6 = 42$$

$$6a = 42 - 6$$

$$6a = 36$$

$$a = 6 \text{ cm (Kısa kenar)}$$

$$2a + 3 = 2 \cdot 6 + 3 = 15 \text{ cm (Uzun kenar)}$$

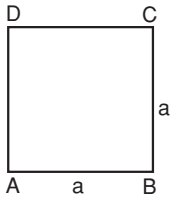
$$A = a \cdot (2a + 3)$$

$$A = 6 \cdot 15$$

$$= 90 \text{ cm}^2$$

Cevap: A

6.



$$A = a^2$$

$$\text{Ç} = 4a$$

$$A = 6 \cdot \text{Ç}$$

$$a^2 = 6 \cdot 4a$$

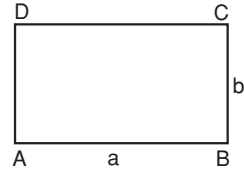
$$a = 24 \text{ cm}$$

$$\text{Ç} = 4 \cdot 24$$

$$= 96 \text{ cm}$$

Cevap: B

7.



$$\frac{2}{a} + \frac{2}{b} = 10$$

$$\text{Ç} = 135$$

$$2(a + b) = 135 \text{ cm}$$

$$\frac{2}{a} + \frac{2}{b} = 10 \Rightarrow \frac{1}{a} + \frac{1}{b} = 5$$

$$\frac{a + b}{ab} = 5$$

$$a + b = 5ab$$

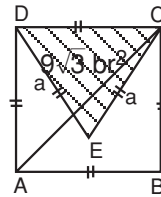
$$2(a + b) = 135$$

$$2 \cdot 5ab = 135$$

$$ab = 13,5 \text{ cm}$$

Cevap: A

8.



$$A(\widehat{DEC}) = \frac{a^2 \cdot \sqrt{3}}{4} = 9\sqrt{3}$$

$$a^2 = 36 \Rightarrow a = 6$$

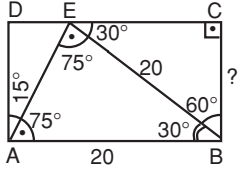
$$A(ABCD) = a^2$$

$$= 6^2$$

$$= 36 \text{ cm}^2$$

Cevap: D

9.

 \widehat{ECB} 'de (Dik üçgen)

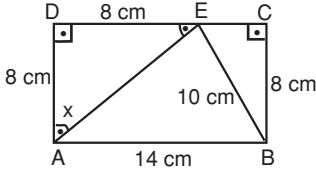
30'nin karşısındaki kenar [CB]

Hipotenüs [EB]

$$\begin{aligned} |CB| &= \frac{|EB|}{2} \\ &= \frac{20}{2} \\ &= 10 \text{ cm} \end{aligned}$$

Cevap: C

10.

 \widehat{ECB} bir dik üçgen

$$\begin{aligned} |EC|^2 &= 10^2 - 8^2 \\ &= 100 - 64 \\ &= 36 \Rightarrow |EC| = 6 \text{ cm} \end{aligned}$$

$$\begin{aligned} |DE| &= 14 - |EC| \\ &= 14 - 6 \\ &= 8 \text{ cm} \end{aligned}$$

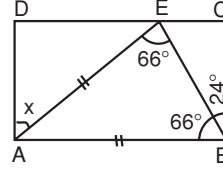
Bulunanlara göre

 \widehat{ADE} bir ikizkenar dik üçgen.

$$\begin{aligned} x &= \frac{180 - 90}{2} \\ &= \frac{90}{2} \\ &= 45 \end{aligned}$$

Cevap: C

11.

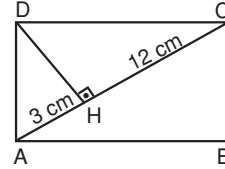


$$\begin{aligned} s(\widehat{A}) &= 180 - (66 + 66) \\ &= 180 - 132 \end{aligned}$$

$$\begin{aligned} s(\widehat{A}) &= 48^\circ (\widehat{EAB}'\text{de tepe açığı}) \\ x &= 90 - s(\widehat{A}) \\ x &= 90 - 48 \\ &= 42^\circ \end{aligned}$$

Cevap: B

12.

 \widehat{ADC} bir dik üçgen

[DH] hipotenüse ait yükseklik

$$|DH|^2 = |AH| \cdot |HC|$$

$$= 3 \cdot 12$$

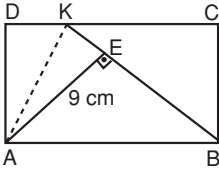
$$= 36 \Rightarrow |DH| = 6 \text{ cm}$$

$$A(\widehat{ADC}) = \frac{|DH| \cdot |AC|}{2} = \frac{6 \cdot 15}{2} = 45 \text{ cm}^2$$

$$\begin{aligned} A(ABDC) &= 2 \cdot A(\widehat{ADC}) \\ &= 2 \cdot 45 \\ &= 90 \text{ cm}^2 \end{aligned}$$

Cevap: D

13.



$$A(\widehat{AKB}) = \frac{|AE| \cdot |KB|}{2} = \frac{9 \cdot 13}{2}$$

$$= \frac{117}{2} \text{ cm}^2$$

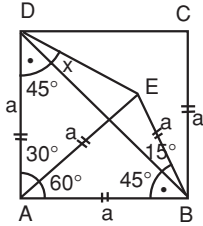
$$A(ABDC) = 2 \cdot A(\widehat{AKB})$$

$$= \cancel{2} \cdot \frac{117}{\cancel{2}}$$

$$= 117 \text{ cm}^2$$

Cevap: B

14.



[DB] köşegen

$$s(\widehat{ADB}) = s(\widehat{ABD}) = 45^\circ$$

 \widehat{EAB} bir eşkenar üçgen

$$s(\widehat{AEB}) = 60^\circ \quad s(\widehat{DAE}) = 90 - 60 = 30^\circ$$

$$s(\widehat{ADE}) = s(\widehat{AED})$$

 \widehat{DAE} 'nin (ikizkenar üçgen) taban açıları

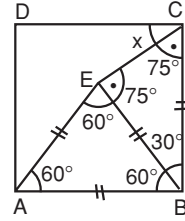
$$S(\widehat{ADE}) = \frac{180 - 30}{2} = \frac{150}{2} = 75^\circ$$

$$x = 75^\circ - 45^\circ$$

$$= 30^\circ$$

Cevap: B

15.


 \widehat{CBE} bir ikiz kenar üçgen

$$s(\widehat{CEB}) = s(\widehat{ECB}) = \frac{180 - 30}{2}$$

$$s(\widehat{ECB}) = \frac{150}{2}$$

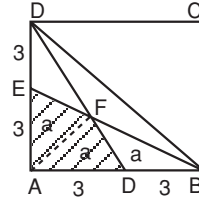
$$= 75$$

$$s(\widehat{ECD}) = x = 90 - 75$$

$$x = 15^\circ$$

Cevap: A

15.



$$A(ABCD) = 6^2 \Rightarrow 36 \text{ cm}^2$$

$$A(\widehat{DAB}) = \frac{A(ABCD)}{2} = \frac{36}{2} = 18 \text{ cm}^2$$

$$A(\widehat{DEB}) = A(\widehat{EAB}) = \frac{A(\widehat{DAB})}{2}$$

$$\begin{aligned} &\text{(Aynı taban uzunluğu ve yüksekliğine sahip iki üçgen)} \\ &= \frac{18}{2} = 9 \text{ cm}^2 \end{aligned}$$

Aynı uzunlukta taban ve yüksekliğe sahip üçgenler

$$A(\widehat{EAF}) = A(\widehat{FAD}) = A(\widehat{FDB})$$

Kare içerisinde simetrik parçalar

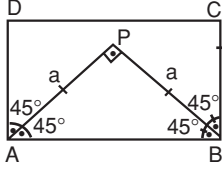
$$3a = 9 \Rightarrow a = 3 \text{ cm}^2$$

$$A(ADFE) = 3 + 3$$

$$= 6 \text{ cm}^2$$

Cevap: D

17.



$$A(\widehat{APB}) = 50 \text{ cm}^2$$

$$\frac{a \cdot a}{2} = 50$$

$$a^2 = 100$$

$$a = 10 \text{ cm}$$

$$|AB| = a\sqrt{2} \text{ (Pisagor)}$$

$$= 10\sqrt{2} \text{ cm}$$

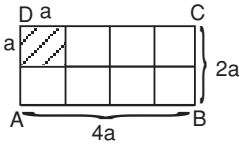
$$A(ABCD) = |AB| \cdot |BC|$$

$$= 10\sqrt{2} \cdot 10$$

$$= 100\sqrt{2} \text{ cm}^2$$

Cevap: B

18.



$$a^2 = 16$$

$$a = 4 \text{ cm}$$

$$\text{Ç}(ABCD) = 2 \cdot (4a + 2a)$$

$$= 2 \cdot 6a$$

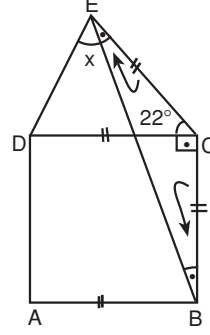
$$= 12a$$

$$= 12 \cdot 4$$

$$= 48 \text{ cm}$$

Cevap: B

19.



$$s(\widehat{ECB}) = 90 + 22$$

$$= 112^\circ$$

$$s(\widehat{CEB}) = s(\widehat{CBE}) = \frac{180 - 112}{2}$$

$$s(\widehat{CEB}) = \frac{68}{2}$$

$$= 34^\circ$$

$$|CE| = |CD| = |\widehat{ECB} \text{ bir ikizkenar üçgen}$$

$$s(\widehat{CED}) = s(\widehat{CDE}) = \frac{180 - 22}{2}$$

$$s(\widehat{CED}) = \frac{158}{2}$$

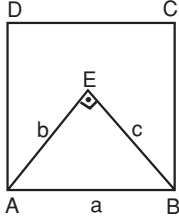
$$= 79^\circ$$

$$s(\widehat{DEB}) = x = 79 - 34$$

$$= 45^\circ$$

Cevap: C

20.



$$a^2 = 169 \text{ cm}^2$$

$$a = 13 \text{ cm}$$

$$\begin{aligned} a + b + c = 30 &\Rightarrow b + c = 30 - a \\ &= 30 - 13 \\ &= 17 \text{ cm} \end{aligned}$$

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

$$b^2 + c^2 = 169$$

$$(b + c)^2 - 2bc = 169$$

$$17^2 - 2bc = 169$$

$$289 - 2bc = 169$$

$$289 - 169 = 2bc$$

$$120 = 2bc$$

$$bc = 60$$

$$\begin{aligned} A(\widehat{AEB}) &= \frac{b \cdot c}{2} \\ &= \frac{60}{2} \\ &= 30 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{Taralı alan} &= A(ABCD) - A(\widehat{AEB}) \\ &= 169 - 30 \\ &= 139 \text{ cm}^2 \end{aligned}$$

Cevap: C