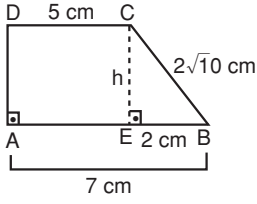


TEST 2 Yamuk

1.



$$ICEI = h$$

\widehat{CEB} dik üçgeninde pisagor

$$(2\sqrt{10})^2 = h^2 + 2^2$$

$$40 = h^2 + 4$$

$$h^2 = 36$$

$$h = 6 \text{ cm}$$

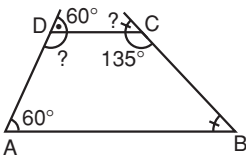
alt ve üst taban yükseklik

$$\text{Yamuğun alanı} = \frac{(a + c) \cdot h}{2}$$

$$A(\text{ABCD}) = \frac{(7 + 5) \cdot 6}{2} = \frac{12 \cdot 6}{2} = 36 \text{ cm}^2$$

Cevap: A

2.



$$s(\widehat{A}) + s(\widehat{D}) = 180$$

$$60 + s(\widehat{D}) = 180$$

$$s(\widehat{D}) = 120$$

$$s(\widehat{B}) + s(\widehat{C}) = 180$$

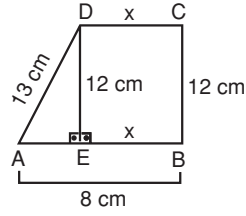
$$s(\widehat{B}) = 180 - 135$$

$$s(\widehat{B}) = 45$$

$$\frac{s(\widehat{D})}{s(\widehat{B})} = \frac{120}{45} = \frac{8}{3}$$

Cevap: D

3.



$$IDEI = IBCI = 12 \text{ cm}$$

\widehat{AED} dik üçgeninde pisagor

$$13^2 = 12^2 + IAEI^2$$

$$IAEI^2 = 169 - 144$$

$$= 25$$

$$IAEI = 5$$

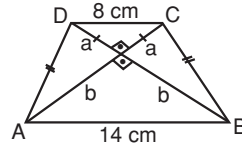
$$x = IBAI - IAEI$$

$$= 8 - 5$$

$$= 3 \text{ cm}$$

Cevap: B

4.



\widehat{DEC} dik üçgeninde pisagor

$$a^2 + a^2 = 8^2$$

$$2a^2 = 64$$

$$a^2 = 32$$

$$a = 4\sqrt{2}$$

\widehat{AEB} dik üçgeninde pisagor

$$b^2 + b^2 = 14^2$$

$$2b^2 = 14^2$$

$$b = 7\sqrt{2}$$

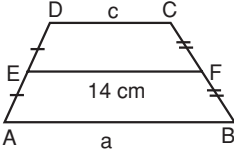
$$IACI = IBDI = 4\sqrt{2} + 7\sqrt{2} = 11\sqrt{2}$$

$$A(\text{ABCD}) = \frac{1}{2} \cdot 11\sqrt{2} \cdot 11\sqrt{2}$$

$$= 121 \text{ cm}^2$$

Cevap: C

5.



$$IEFI = \frac{a + c}{2}$$

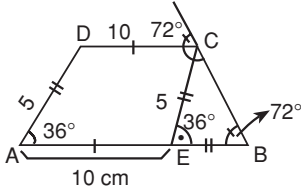
$$14 = \frac{a + c}{2}$$

$$a + c = 28 \text{ cm}$$

Bir yamukta orta taban uzunluğu, alt ve üst tabanların toplamının yarısına eşittir.

Cevap: D

6.



[CE] // [DA] olacak şekilde

[CE] çizebiliriz.

\widehat{DAB} ve \widehat{CEB} yöndeş açılar.

$$s(\widehat{DAB}) = s(\widehat{CEB}) = 36^\circ$$

\widehat{CEB} 'ninde

$$s(\widehat{BCE}) = 180 - (36 + 72)$$

$$s(\widehat{BCE}) = 180 - 108 \\ = 72$$

$$s(\widehat{B}) = 180 - (90 + 18)$$

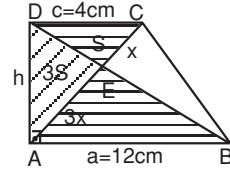
$$= 180 - 108 \\ = 72^\circ$$

\widehat{CEB} bir ikizkenar üçgen bulunur.

$$s(\widehat{ECB}) = s(\widehat{EBC}) \\ IECE = IEBC = 5 \text{ cm} \\ IABI = IAEI + IEBC \\ = 10 + 5 \\ = 15 \text{ cm}$$

Cevap: A

7.



IADI = h olsun

$$A(ABCD) = 32$$

$$A(ABCD) = \frac{(a + c) \cdot h}{2} \Rightarrow 32 = \frac{(12 + 4) \cdot h}{2}$$

$$32 = \frac{16 \cdot h}{2} \Rightarrow 16 \cdot h = 64$$

$$\Rightarrow h = 4 \text{ cm bulunur.}$$

(Kelebek kuralından)

$$\frac{IDCI}{IABI} = \frac{ICEI}{IEAI} \Rightarrow \frac{1}{12} = \frac{ICEI}{IEAI}$$

ICEI = x, IEAI = 3x olsun

$$\Rightarrow A(\widehat{DEC}) = S, \quad A(\widehat{ADE}) = 3S \text{ olur.}$$

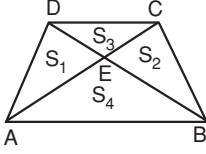
$$A(\widehat{ADC}) = \frac{4 \cdot 4}{2} = 8 \text{ cm}^2$$

$$A(\widehat{ADC}) = 4S = 8 \Rightarrow S = 2 \text{ cm}^2$$

$$A(\widehat{ADE}) = 3S = 3 \cdot 2 = 6 \text{ cm}^2$$

Cevap: C

8.



$$S_1 = S_2 = \sqrt{S_3 \cdot S_4}$$

$$S_3 = A(\widehat{DEC}) = 16 \text{ cm}^2$$

$$S_4 = A(\widehat{AEB}) = 36 \text{ cm}^2$$

$$S_1 = S_2 = \sqrt{16 \cdot 36}$$

$$= 4 \cdot 6 =$$

$$= 24 \text{ cm}^2$$

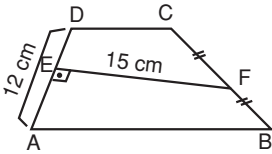
$$A(ABCD) = S_1 + S_2 + S_3 + S_4$$

$$= 24 + 24 + 16 + 36$$

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

Cevap: B

9.



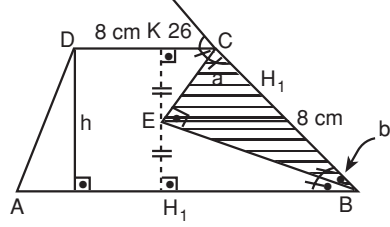
Bu tip sorularda yani yamuğun paralel olmayan kenarlarının birinin orta noktasından karşı kenara çizilen dikme varsa; kural gereği:

$$A(ABCD) = IADI \cdot IEFI \text{ 'dir.}$$

$$= 12 \cdot 15 = 180 \text{ cm}^2$$

Cevap: C

10.



$$2a + 2b = 180$$

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

\widehat{CEB} 'nde

$$s(\widehat{E}) = 180 - (a + b)$$

$$s(\widehat{E}) = 90^\circ$$

\widehat{CEB} bir dik üçgen bulunur.

$$A(ABCD) = \frac{(8 + 14) \cdot h}{2}$$

$$121 = \frac{22 \cdot h}{2}$$

$$121 = 11 \cdot h$$

$$h = 11 \text{ cm}$$

$$[HK] \text{ çizilir} \Rightarrow IHKI = 11 \text{ cm}$$

$$[EH_1] \perp [BC] \text{ çizilir.}$$

$$A(\widehat{EBC}) = \frac{|BC| \cdot |EH_1|}{2} \text{ 'dir.}$$

$|EH_1|$ 'yi bulmalıyız.

$$|EK| = |EH_1| = |EH_1| = m \text{ olsun}$$

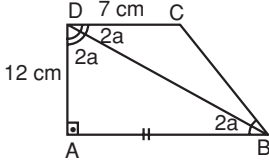
(Açıortay doğrusundan açıortayın kollarına inilen dikme uzunlukları eşittir.)

$$|EK| = |EH_1| = |EH_1| = m = \frac{11}{2} \text{ 'dir.}$$

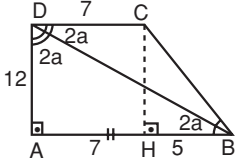
$$A(\widehat{BEC}) = \frac{8 \cdot \frac{11}{2}}{2} = 22 \text{ cm}^2$$

Cevap: D

11.



\widehat{CDB} ve \widehat{DBA} açıları iç ters açılarıdır. Ölçüleri birbirine eşittir.



$[CH] \perp [AB]$ çizilir.

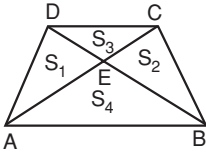
$$|CH| = 12$$

$|BC| = 13$ olur. (5 - 12 - 13 dek üçgeni)

$$\mathcal{C}(ABCD) = 44$$

Cevap: A

12.



$$A(\widehat{DEC}) = S_3 = 12 \text{ cm}^2$$

$$A(\widehat{AEB}) = S_4 = 75 \text{ cm}^2$$

$$A(\widehat{DEA}) = A(\widehat{CEB}) = \sqrt{S_3 \cdot S_4}$$

$$S_1 = S_2 = \sqrt{12 \cdot 75}$$

$$= 30$$

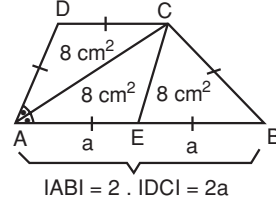
$$A(ABCD) = S_1 + S_2 + S_3 + S_4$$

$$= 30 + 30 + 12 + 75$$

$$= 147 \text{ cm}^2$$

Cevap: B

13.



$$s(\widehat{CAE}) = s(\widehat{DCA}) \text{ (iç ters açılar)}$$

\widehat{DAC} bir ikiz kenar üçgen olduğu görülür.

$$|DA| = |DC|$$

$[CE] \parallel [DA]$ olacak şekilde

$[CE]$ çizerek

$ADCE$ paralelkenarını elde ederiz. $[AC]$ paralel kenarın köşegenidir.

Böylece; $A(\widehat{ADC}) = A(\widehat{AEC})$ buluruz.

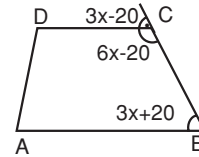
$$A(\widehat{ADC}) = A(\widehat{AEC}) = A(\widehat{CEB}) = 8 \text{ cm}^2$$

Taban uzunlukları ve yükseklikleri eşit üçgenlerin alanları birbirine eşittir.

$$\begin{aligned} A(ABCD) &= 8 + 8 + 8 \\ &= 24 \text{ cm}^2 \end{aligned}$$

Cevap: A

14.



$$s(\widehat{B}) + s(\widehat{C}) = 180^\circ$$

$$3x + 20 + 6x - 20 = 180$$

$$9x = 180$$

$$x = 20$$

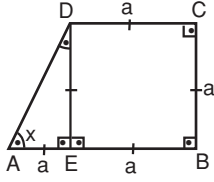
$$s(\widehat{B}) = 3x + 20^\circ$$

$$= 3 \cdot 20 + 20$$

$$= 80^\circ$$

Cevap: C

15.



$$IABI = 2 \cdot IDCI = 2 \cdot IBCI$$

IDCI = IBCI bulunur.

[DE] \perp [AB] çizersek, bu durumda;

IAEI = IEBI = IBCI = IDCI = a olur.

$$s(\widehat{A\hat{E}D}) = 90^\circ$$

$$IAEI = IDEI = a$$

Bu durumda $\widehat{A\hat{E}D}$ bir ikizkenar üçgendir.

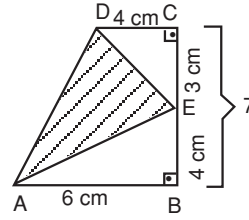
$$s(\widehat{A}) = s(\widehat{A\hat{D}E}) = \frac{180 - 90}{2}$$

$$= \frac{90}{2}$$

$$= 45^\circ$$

Cevap: B

16.



$$A(ABCD) = \frac{(6 + 4) \cdot 7}{2}$$

$$= \frac{70}{2}$$

$$= 35 \text{ cm}^2$$

$$A(\widehat{D\hat{C}E}) = \frac{4 \cdot 3}{2}$$

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

$$A(\widehat{A\hat{E}B}) = \frac{4 \cdot 6}{2}$$

$$= 12 \text{ cm}^2$$

$$A(\widehat{A\hat{D}E}) = A(ABCD) - [A(\widehat{D\hat{C}E}) + A(\widehat{A\hat{E}B})]$$

$$= 35 - (6 + 12)$$

$$= 35 - 17$$

$$= 18 \text{ cm}^2$$

Cevap: B