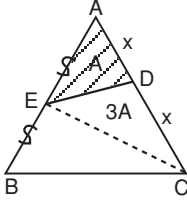


Üçgende Alan TEST 2

1.



[EC]'yi çizelim.

\widehat{AEC} 'ninde,

$$A(\widehat{EDC}) = A(\widehat{EAD}) \cdot 3$$

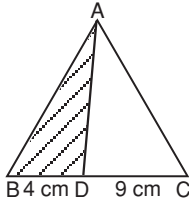
$$A(\widehat{EDC}) = 3A$$

$$A(\widehat{EAC}) = A(\widehat{EBC}) = 4A$$

$$\Rightarrow A(\widehat{ABC}) = 8A = 8 \cdot 5 = 40 \text{ cm}^2$$

Cevap: D

2.



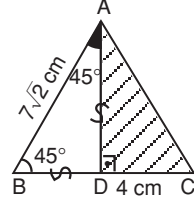
$$\begin{array}{r} 4 \quad \times \quad 12 \text{ cm}^2 \\ 9 \quad \times \quad x \text{ cm}^2 \\ \hline \end{array}$$

$$x \cdot 4 = 9 \cdot 12$$

$$x = A(\widehat{ADC}) = 27 \text{ cm}^2$$

Cevap: C

3.

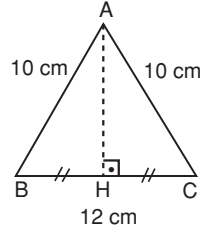


$$|AD| = |BD| = 7 \text{ cm } (90^\circ - 45^\circ - 45^\circ)$$

$$A(\widehat{ADC}) = \frac{|DC| \cdot |AD|}{2} = \frac{4 \cdot 7}{2} = 14 \text{ cm}^2$$

Cevap: D

4.



$[AH] \perp [BC]$ ([AH] çizilir.)

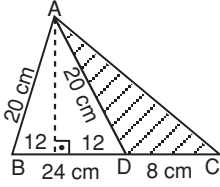
$|BH| = |HC|$ olur. (İkizkenar üçgende yükseklik kenarortaydır.)

$$|AH|^2 + 6^2 = 10^2 \Rightarrow |AH| = 8 \text{ cm}$$

$$A(\widehat{ABC}) = \frac{|BC| \cdot |AH|}{2} = \frac{12 \cdot 8}{2} = 48 \text{ cm}^2$$

Cevap: A

5.



$[AH] \perp [HC]$ ($[AH]$ çizilir.)

Tabanı iki eş parçaya böler.

$$|AH|^2 + |BH|^2 = 20^2 \Rightarrow |AH|^2 + 12^2 = 20^2$$

$\Rightarrow |AH| = 16$ bulunur.

$$A(\widehat{ADC}) = \frac{8 \cdot |AH|}{2} = \frac{8 \cdot 16}{2} = 64 \text{ cm}^2$$

Cevap: D

6. Soru düzeltildi:

Şekildeki ABC üçgeninde,

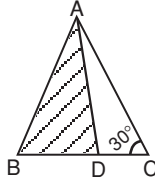
$$s(\widehat{ACB}) = 30^\circ$$

$$|AB| = |AD|$$

$$|BD| = 6 \text{ cm}$$

$$|DC| = 5\sqrt{3} - 3 \text{ cm}$$

ise $A(\widehat{ABD})$ kaç cm^2 'dir?



Çözüm:

$[AH] \perp [BD]$ olacak şekilde $[AH]$ çizilir.

$|BH| = |HD|$ olur. (ABD ikizkenar üçgen)

$$\Rightarrow |HC| = 5\sqrt{3} - 3 + 3 = 5\sqrt{3} \text{ cm olur.}$$

$s(\widehat{HAC}) = 60^\circ$ olur.

\widehat{AHC} 'ninde ($90^\circ - 30^\circ - 60^\circ$)

$$30 \rightarrow |AH|$$

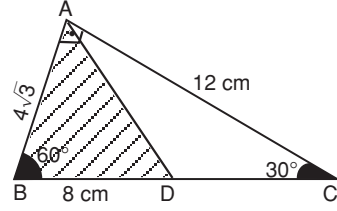
$$60 \rightarrow |AH| \cdot \sqrt{3} = 5\sqrt{3}$$

$$\Rightarrow |AH| = 5 \text{ cm}$$

$$\Rightarrow A(\widehat{ABD}) = \frac{|BD| \cdot |AH|}{2} = \frac{6 \cdot 5}{2} = 15 \text{ cm}^2$$

Cevap: D

7.



\widehat{ABC} 'ninde,

$$60^\circ \rightarrow 12 \text{ cm'lik kenar}$$

$$30^\circ \rightarrow x$$

$$x \cdot \sqrt{3} = 12$$

$$x = \frac{12}{\sqrt{3}} = 4\sqrt{3}$$

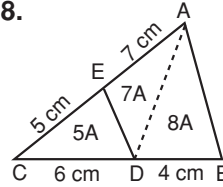
$$A(\widehat{ABD}) = \frac{1}{2} \cdot |AB| \cdot |BD| \cdot \sin 60^\circ$$

$$\frac{1}{2} \cdot 4\sqrt{3} \cdot 8 \cdot \frac{\sqrt{3}}{2} = 24 \text{ cm}^2$$

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

Cevap: C

8.



$[AD]$ 'yi çizelim:

$$\frac{A(\widehat{AED})}{A(\widehat{CED})} = \frac{7}{8} \text{ tir.}$$

\widehat{ABC} 'ninde;

$$\frac{A(\widehat{ACD})}{A(\widehat{ADB})} = \frac{6}{4} = \frac{12A}{A(\widehat{ADB})}$$

$$\Rightarrow A(\widehat{ADB}) = 8A$$

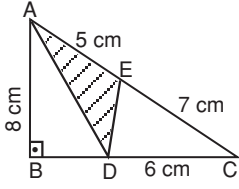
$$\Rightarrow A(\widehat{ABC}) = 20A = 36$$

$$\Rightarrow A = 1,8 \text{ cm}^2$$

$$A(\widehat{CDE}) = 5A = 5 \cdot 1,8 = 9 \text{ cm}^2$$

Cevap: A

9.



$$A(\widehat{ADC}) = \frac{|DC| \cdot |AB|}{2} = \frac{6 \cdot 8}{2} = 24 \text{ cm}^2$$

$$A(\widehat{ADE}) \Rightarrow 5A, A(\widehat{DEC}) \Rightarrow 7A$$

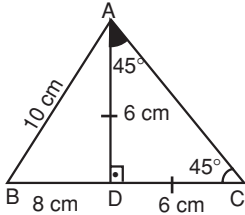
$$\Rightarrow A(\widehat{ADC}) \Rightarrow 5A + 7A = 12A$$

$$12A = 24 \Rightarrow A = 2 \text{ cm}^2$$

$$\Rightarrow A(\widehat{ADE}) = 5A = 5 \cdot 2 = 10 \text{ cm}^2$$

Cevap: D

10.

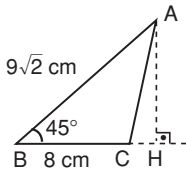


$$|AD| = |DC| = 6 \text{ olur.}$$

$$A(\widehat{ABC}) = \frac{|BC| \cdot |AD|}{2} = \frac{14 \cdot 6}{2} = 42 \text{ cm}^2$$

Cevap: D

11.



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

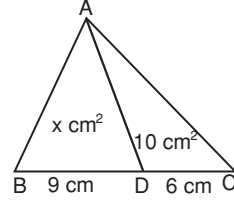
$$([AH] \text{ çizilir.})$$

$$|AH| = |BH| = 9 \text{ olur. } (90^\circ - 45^\circ - 45^\circ)$$

$$A(\widehat{ABC}) = \frac{|BC| \cdot |AH|}{2} = \frac{8 \cdot 9}{2} = 36 \text{ cm}^2$$

Cevap: C

12.



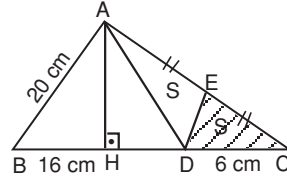
$$\begin{array}{r} 6 \times 10 \text{ cm}^2 \\ 9 \times x \text{ cm}^2 \\ \hline \end{array}$$

$$x \cdot 6 = 9 \cdot 10 \Rightarrow x = 15 \text{ cm}^2$$

$$A(\widehat{ABC}) = 15 + 10 = 25 \text{ cm}^2$$

Cevap: B

13.



$$|AE| = |EC| \Rightarrow A(\widehat{ADE}) = A(\widehat{DEC}) = S' \text{ dir.}$$

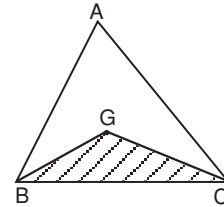
$$|AH|^2 + 16^2 = 20^2 \Rightarrow |AH| = 12 \text{ cm}$$

$$A(\widehat{ADC}) = \frac{|DC| \cdot |AH|}{2} = \frac{6 \cdot 12}{2} = 36 \text{ cm}^2$$

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

Cevap: C

14.

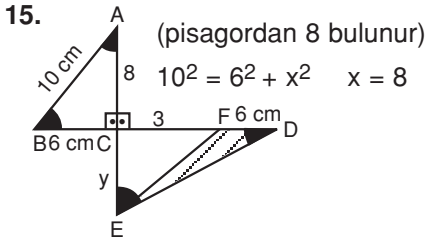


G, ağırlık merkezi olduğundan;

$$A(\widehat{BGC}) = \frac{A(\widehat{ABC})}{3} \Rightarrow 18 = \frac{A(\widehat{ABC})}{3}$$

$$\Rightarrow A(\widehat{ABC}) = 54$$

Cevap: D



$|CF| = 3$ cm bulunur.

$$\left. \begin{array}{l} s(\widehat{ABC}) = s(\widehat{CDE}) \\ s(\widehat{BAC}) = s(\widehat{CED}) \end{array} \right\} \text{ içters açılar}$$

\widehat{CBA} ve \widehat{CED}

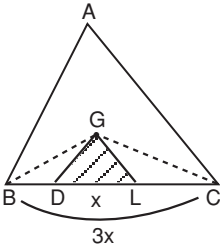
benzer üçgenler

$$\frac{8}{y} = \frac{6}{9} \Rightarrow y = 12$$

$$\begin{aligned} A(\widehat{FDE}) &= \frac{12 \cdot 6}{2} \\ &= 36 \text{ cm}^2 \end{aligned}$$

Cevap: B

16.



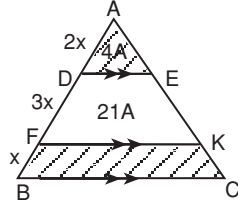
[BG] ve [GC] çizilir.

$$A(\widehat{BGC}) = \frac{A(\widehat{ABC})}{3} = \frac{72}{3} = 24 \text{ cm}^2 \text{ bulunur.}$$

$$A(\widehat{GDL}) = \frac{A(\widehat{BGC})}{3} = \frac{24}{3} = 8 \text{ cm}^2$$

Cevap: C

17.



$$\frac{A(\widehat{ADE})}{A(\widehat{AFK})} = \left(\frac{2x}{5x} \right)^2 = \frac{4}{25}$$

$$A(\widehat{ADE}) = 4A, \quad A(\widehat{AFK}) = 21A$$

$$\frac{A(\widehat{AFK})}{A(\widehat{ABC})} = \left(\frac{5x}{6x} \right)^2 = \frac{25}{36}$$

$$A(\widehat{AFK}) = 25A$$

$$A(\widehat{ABC}) = 36A$$

$$\Rightarrow A(\widehat{BFKC}) = 11A$$

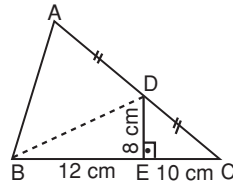
$$\text{Taralı alanlar toplamı} = 4A + 11A = 15A = 45 \text{ cm}^2$$

$$A = 3 \text{ cm}^2$$

$$\Rightarrow (DEFK) = 21A = 21 \cdot 3 = 63 \text{ cm}^2$$

Cevap: A

18.



[BD] çizilir.

$$A(\widehat{ABD}) = A(\widehat{BDC}) \text{ dir.}$$

$$A(\widehat{BDC}) = \frac{(10 + 12) \cdot 8}{2} = 88 \text{ cm}^2$$

$$A(\widehat{ABC}) = 2 \cdot A(\widehat{BDC}) = 2 \cdot 88 = 176 \text{ cm}^2$$

Cevap: A