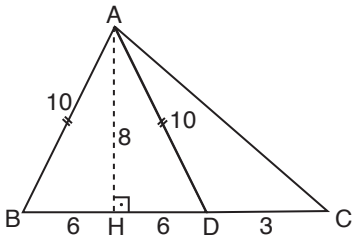
1.

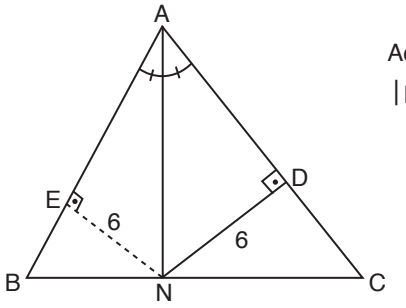


ABD ikizkenar üçgeninde [BD] kenarına dik çizildiğinde $|HD| = |BH| = 6$ br ve $|AH| = 8$ br olur.

$$A(\widehat{ABC}) = \frac{|BC|.|AH|}{2} = \frac{15.8}{2} = 60 \text{ br}^2 \text{ olur.}$$

Cevap: B

2.



Açıortaydan dolayı

$|ND| = |NE| = 6$ br

$$A(\widehat{ABC}) = A(\widehat{ANC}) + A(\widehat{ANB})$$

$$A(\widehat{ABC}) = \frac{|ND|.|AC|}{2} + \frac{|NE|.|BA|}{2}$$

$$= \frac{6.|AC|}{2} + \frac{6.|BA|}{2}$$

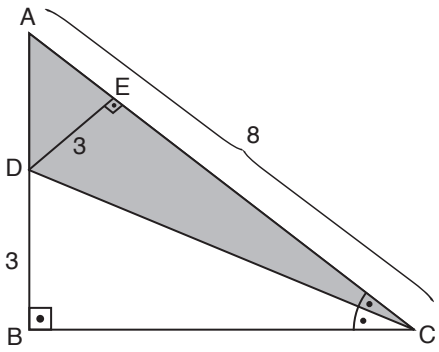
$$= 3(|AC| + |BA|)$$

$$= 3.24$$

$= 72 \text{ br}^2$ bulunur.

Cevap: C

3.



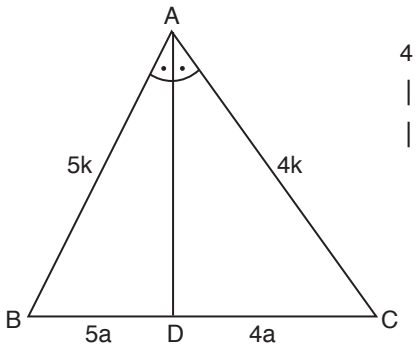
[CD] açıortay olduğundan $|DB| = |DE| = 3$ cm

O halde

$$A(\widehat{ADC}) = \frac{|DE|.|AC|}{2} = \frac{3.8}{2} = 12 \text{ cm}^2 \text{ bulunur.}$$

Cevap: C

4.



$4|AB| = 5|AC|$

$|AB| = 5k$ ve

$|AC| = 4k$ olur.

Açıortay teoreminden $|BD| = 5a$ ise $|DC| = 4a$ olur.

9a tabanda alan — 72 br^2

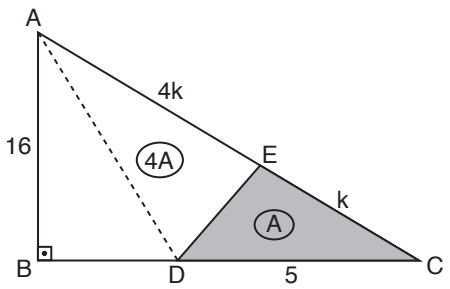
5a tabanda alan — $x \text{ br}^2$

$$9a.x = 5.72$$

$x = 40 \text{ br}^2$ bulunur.

Cevap: E

5.



$|AE| = 4|EC|$

$|AE| = 4k, \quad |EC| = k$

A ve D noktaları birleştirilerek ADC üçgeni oluşturulur.

$A(\widehat{ADC}) = \dfrac{|AB|.|DC|}{2} = \dfrac{16.5}{2} = 40\ cm^2$

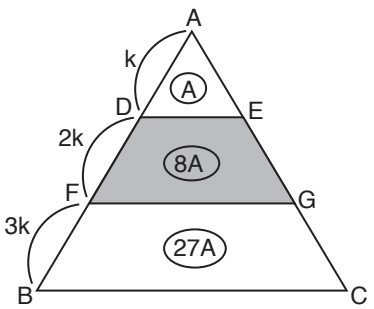
$5A = 40\ cm^2$

$A = 8\ cm^2$ bulunur.

$A(\widehat{DEC}) = 8\ cm^2$ dir.

Cevap: C

6.



$|AD| = k$

$|DF| = 2k$

$|FB| = 3k$

Temel benzerlikten

$\dfrac{|AD|}{|AF|} = \dfrac{k}{3k} = \dfrac{1}{3}$

alanlar oranı $\left(\dfrac{1}{3}\right)^2 = \dfrac{1}{9}$

$A(\widehat{ADE}) = A$ ise $A(DEGF) = 8A$

$\dfrac{|AF|}{|AB|} = \dfrac{3k}{6k} = \dfrac{1}{2}$ Alan oranı $\left(\dfrac{1}{2}\right)^2 = \dfrac{1}{4}$

$1 \rightarrow 9A$ ise

$4 \rightarrow x \quad x = 36A$

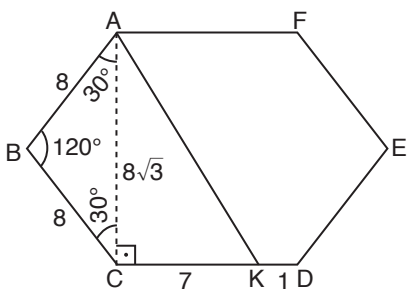
$A(FGCB) = 27A$

O halde $36A = 360 \Rightarrow A = 10$

$A(DEGF) = 8.10 = 80\ br^2$ bulunur.

Cevap: B

7.



ABCDEF düzgün altıgen olduğundan iç açıların her biri 120° olur.

$|AB| = |BC| = 8$ br

$|AC| = 8\sqrt{3}$ br olur.

ACK dik üçgen olduğundan

$|AC|^2 + |CK|^2 = |AK|^2$

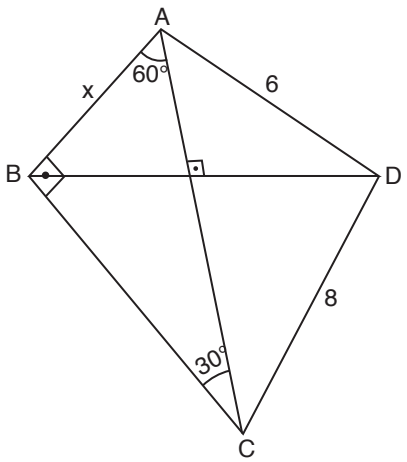
$(8\sqrt{3})^2 + (7)^2 = |AK|^2$

$241 = |AK|^2$

$|AK| = \sqrt{241}$ br bulunur.

Cevap: A

8.



$|AB| = x \Rightarrow |BC| = x\sqrt{3}$

ABCD dörtgeninde

$x^2 + 8^2 = (x\sqrt{3})^2 + 6^2$

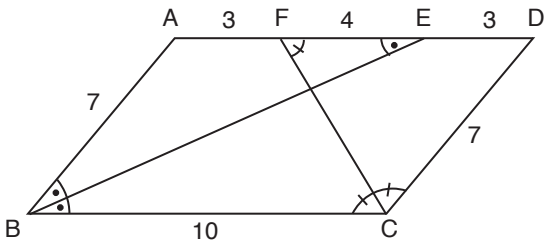
$x^2 + 64 = 3x^2 + 36$

$28 = 2x^2 \Rightarrow x^2 = 14$

$x = \sqrt{14}$ cm

Cevap: B

9.



[AD] // [BC] olduğu için

$m(\widehat{BCF}) = m(\widehat{DFC})$ (iç ters)

$m(\widehat{EBC}) = m(\widehat{AEB})$ (iç ters)

$\widehat{DFC}$ ikizkenardır $|FD| = |DC| = 7$ br

$\widehat{ABE}$ ikizkenardır $|AB| = |AE| = 7$ br

$|AF| = 3$ br olur.

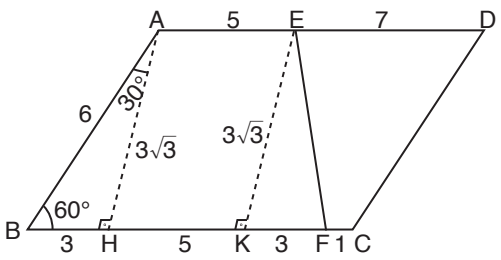
$|AD| = |BC| = 10$ br

O halde çevresi

Ç(ABCD) = (7 + 10).2 = 34 br bulunur.

Cevap: D

10.



ABH üçgeninde 30°, 60°, 90° olduğundan

$|AB| = 6$ br, $|BH| = 3$ ve $|AH| = 3\sqrt{3}$ olur.

$|AD| = |BC| = 12$ br

buradan $|KF| = 3$ br'dir.

EKF üçgeninde

$|EF|^2 = |KF|^2 + |EK|^2$

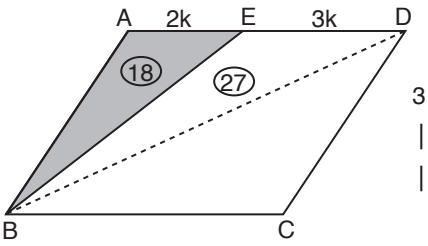
$|EF|^2 = 3^2 + (3\sqrt{3})^2$

$= 9 + 27$

$|EF|^2 = 36 \Rightarrow |EF| = 6$ br bulunur.

Cevap: C

11.



$3|AE| = 2|ED|$ ise

$|AE| = 2k$ ve

$|ED| = 3k$

$A(\widehat{ABE}) = 18$ br^2 ise

$A(\widehat{EBD}) = 27$ br^2 olur.

ABCD paralelkenarı için

$A(\widehat{ABD}) = A(\widehat{BCD})$

O halde

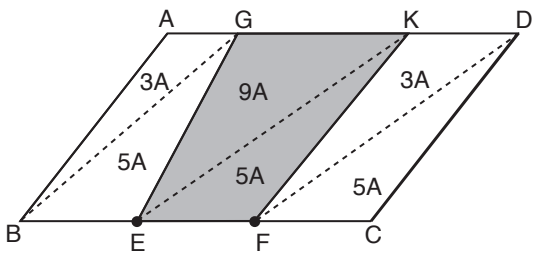
$A(ABCD) = A(\widehat{ABD}) + A(\widehat{BCD})$

$= 45 + 45$

$= 90$ br^2 bulunur.

Cevap: C

12.



$|AD| = |BC| = 15x$ olsun

$|AG| = |KD| = 3x$

$|GK| = 9x$ olur.

$|BE| = |EF| = |FC| = 5x$'dir.

$A(\widehat{ABG}) = 3A$ ise $A(\widehat{BGE}) = 5A$

$A(\widehat{GEK}) = 9A$ ise $A(\widehat{EFK}) = 5A$

$A(\widehat{FKD}) = 3A$ ise $A(\widehat{FCD}) = 5A$

$A(ABCD) = 3A + 5A + 9A + 5A + 3A + 5A = 30A$

$30A = 120$

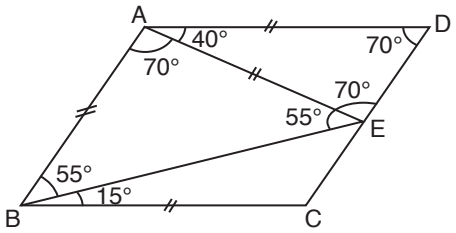
$A = 4$ b^2

O halde $A(EFKG) = 9A + 5A = 14A$

$= 14.4 = 56$ br^2 bulunur.

Cevap: B

13.



ABCD eşkenar dörtgen olduğundan

$|AB| = |BC| = |CD| = |AD|$

AED ikizkenar üçgen ve

$m(\widehat{AED}) = m(\widehat{ADE}) = 70°$ olur.

$m(\hat{A}) + m(\hat{D}) = 180° \Rightarrow m(\hat{A}) = 110°$

$m(\widehat{BAE}) = 70$

$\widehat{ABE}$ ikizkenar olduğundan

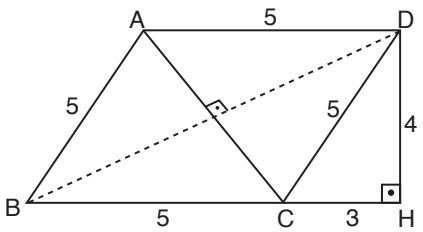
$m(\widehat{ABE}) = m(\widehat{AEB}) = 55°$

$m(\hat{B}) = m(\hat{D})$ ise

$m(\widehat{CBE}) = 15°$ bulunur.

Cevap: A

14.



$|DH| = 4$, $|CH| = 3$ ise $|CD| = 5$ olur.

(3, 4, 5 üçgeninden)

DBH dik üçgen

$|DH| + |BH|^2 = |BD|^2$

$4^2 + 8^2 = |BD|^2$

$16 + 64 = |BD|^2 \Rightarrow |BD|^2 = 80$

$|BD| = 4\sqrt{5}$

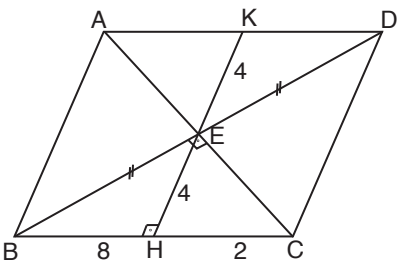
$$A(ABCD) = |DH|.|BC| = \frac{|BD|.|AC|}{2}$$

$$4.5 = \frac{4\sqrt{5}.|AC|}{2}$$

$$|AC| = \frac{20}{2\sqrt{5}} = 2\sqrt{5} \text{ bulunur.}$$

Cevap: B

15.



BEC dik üçgeninde öklid bağıntısı uygulanırsa

$|EH|^2 = |BH|.|HC|$

$|EH|^2 = 8.2 = 16$

$|EH| = 4$ cm

E orta noktası olduğundan

$|EH| = 4$ cm ise $|EK| = 4$ cm olur.

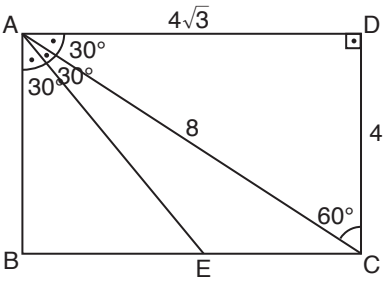
$A(ABCD) = |KH|.|BC|$

$= 8.10$

$= 80 \text{ cm}^2$ bulunur.

Cevap: E

16.



$m(\widehat{BAE}) = m(\widehat{EAC}) = m(\widehat{CAD}) = 30°$

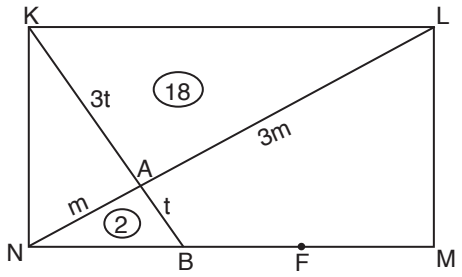
ADC üçgeninde pisagordan

$|AC| = 8$, $|AD| = 4\sqrt{3}$ ve $|DC| = 4$

$A(ABCD) = 4.4\sqrt{3} = 16\sqrt{3}$

Cevap: D

17.



$|NB| = |BF| = |FM| = k$ ise $|KL| = 3k$

[KL] // [NB] olduğu için

$\widehat{NAB} \sim \widehat{LAK}$

$\frac{|NB|}{|LK|} = \frac{k}{3k} = \frac{1}{3}$

$\left(\frac{1}{3}\right)^2 = \frac{1}{9}$ alanları oranı

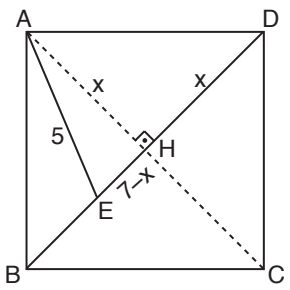
$\frac{1}{3}$ benzerlik oranından $|NA| = m$ ise $|AL| = 3m$

$A(\widehat{LAK}) = 18\ cm^2 \Rightarrow A(\widehat{NAK}) = 6\ cm^2$

$A(\widehat{NLK}) = 24\ cm^2$ $A(KNML) = 2.24 = 48\ cm^2$ olur.

Cevap: E

18.



AHE üçgeninden

$|AH|^2 + |HE|^2 = |AE|^2$

$x^2 + (7 - x)^2 = 5^2$

$x^2 + 49 - 14x + x^2 = 25$

$2x^2 - 14x + 24 = 0$

$x^2 - 7x + 12 = 0$

$x = 4$ veya $x = 3$ olur.

köşegenler eşit olacağından x = 3 olamaz.

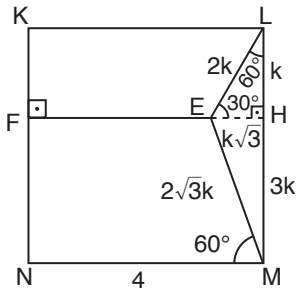
AHD üçgeninden

$4^2 + 4^2 = |AD|^2$

$32 = |AD|^2 \Rightarrow |AD| = 4\sqrt{2}$ bulunur.

Cevap: B

19.



KLMN kare olduğundan

$4k = 4 \Rightarrow k = 1$

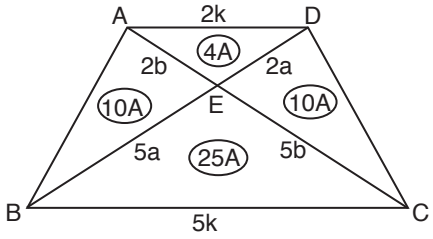
$|EH| = k\sqrt{3} = \sqrt{3}$

$|FH| = |MN| = 4$ cm

$|FE| = 4 - \sqrt{3}$ bulunur.

Cevap: D

20.



$5|AD| = 2|BC| \Rightarrow |AD| = 2k$ ve $|BC| = 5k$

[AD] // [BC] olduğundan $\widehat{DEA} \sim \widehat{BEC}$

Benzerlik oranı $\frac{|AD|}{|BC|} = \frac{2k}{5k} = \frac{2}{5}$

olduğundan alanları oranı $\left(\frac{2}{5}\right)^2 = \frac{4}{25}$

$A(\widehat{AED}) = 4A$ ise $A(\widehat{BEC}) = 25A$

$A(\widehat{AED}) = 4A$ ise $A(\widehat{ABE}) = 10A$

$A(\widehat{AED}) = 4A$ ise $A(\widehat{DEC}) = 10A$

$\frac{A(\widehat{BEC})}{A(ABCD)} = \frac{25A}{49A} = \frac{25}{49}$ bulunur.

Cevap: A