

$$\begin{array}{l}
 1. \quad \left. \begin{array}{l} \text{YEM} \\ \text{MAY} \\ \text{KAR} \\ \text{RAR} \\ \text{YAM} \end{array} \right\} \begin{array}{l} \text{YAM} \\ 137 \\ \text{YEM} \\ 107 \\ \text{RAR} \\ 838 \\ \text{MAY} \\ 731 \\ \text{KAR} \\ 538 \end{array} \quad \begin{array}{l} Y \rightarrow 1 \\ A \rightarrow 3 \\ R \rightarrow 8 \\ K \rightarrow 5 \\ M \rightarrow 7 \\ E \rightarrow 0 \end{array}
 \end{array}$$

YANKIM \rightarrow 134567

Cevap: E

$$\begin{array}{l}
 2. \quad \underbrace{(3a-3)}_3 \blacksquare \underbrace{(2b+1)}_9 = \frac{3a}{5} + \frac{b}{3} \\
 3a-3=3 \quad 2b+1=9 \\
 3a=6 \quad 2b=8 \\
 a=2 \quad b=4 \\
 \frac{3a}{5} + \frac{b}{3} = \frac{3 \cdot 2}{5} + \frac{4}{3} = \frac{6}{5} + \frac{4}{3} = \frac{18+20}{15} = \frac{38}{15}
 \end{array}$$

$$\begin{array}{l}
 \underbrace{(3a-4)}_{11} \blacktriangle \underbrace{(b^3-2)}_6 = \frac{a}{3} + \frac{2b}{5} \\
 3a-4=11 \quad b^3-2=6 \\
 3a=15 \quad b^3=8 \\
 a=5 \quad b=2 \\
 \frac{a}{3} + \frac{2b}{5} = \frac{5}{3} + \frac{2 \cdot 2}{5} = \frac{5}{3} + \frac{4}{5} = \frac{25+12}{15} = \frac{37}{15}
 \end{array}$$

$$\frac{38}{15} - \frac{37}{15} = \frac{1}{15}$$

Cevap: A

$$3. \quad \frac{2}{9} + \frac{1}{6} + \frac{1}{3} + N = 1$$

(1) (3) (6)

$$\frac{4+3+6}{18} + N = 1$$

$$\frac{13}{18} + N = 1$$

$$N = \frac{5}{18} = \frac{5x}{18x}$$

$$\begin{array}{l}
 18x = 360 \quad 5x = 5 \cdot 20 \\
 x = 20 \quad = 100^\circ
 \end{array}$$

Cevap: D

TASARI AKADEMI YAYINLARI

$$4. \quad b + c = 4$$

$$\begin{array}{l} a \cdot c = 45 \\ a \cdot b = 27 \end{array}$$

$$\frac{c}{b} = \frac{45}{27} = \frac{5}{3}$$

$$c = 5k \quad b = 3k$$

$$b + c = 3k + 5k = 4$$

$$8k = 4$$

$$k = \frac{1}{2}$$

$$a \cdot b = 27$$

$$a \cdot 3k = 27$$

$$a \cdot k = 9$$

$$a \cdot \frac{1}{2} = 9$$

$$a = 18$$

Cevap: E

$$\begin{array}{r}
 5. \quad 2k + \ddot{u} = 5\text{ç} \\
 \quad -2 / k + 2\text{ç} = 4\text{ç} \\
 \hline
 \quad 2k + \ddot{u} = 5\text{ç} \\
 \quad -2k - 4\ddot{u} = -8\text{ç} \\
 \hline
 \quad -3\ddot{u} = -3\text{ç} \\
 \quad \ddot{u} = \text{ç}
 \end{array}$$

$$k + 2\ddot{u} = 4\text{ç}$$

$$k + 2\text{ç} = 4\text{ç}$$

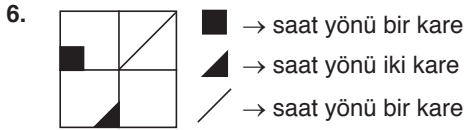
$$k = 2\text{ç}$$

$$k + \ddot{u} = 2\text{ç} + \text{ç} = 3\text{ç}$$

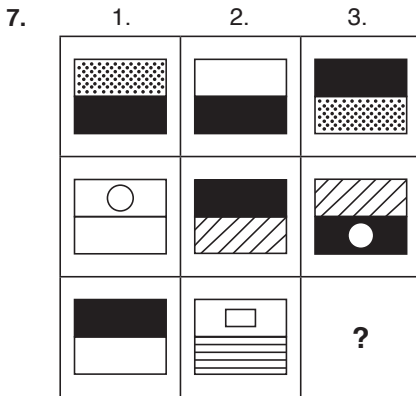
B şıkkından;

$$\text{ç} + 2\ddot{u} = \text{ç} + 2\text{ç} = 3\text{ç}$$

Cevap: B



Cevap: A



1 ve 2'yi topla 3.'ye yazarken ters çevir.



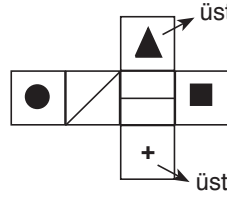
Cevap: B

8. Tek çizgili olacak. Kare olacak üstte.

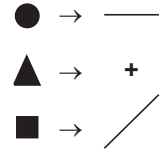


Cevap: E

9.



Karşılık gelen şekiller



Bu şekillerden biri gözüküğünde diğeri gözükmez.

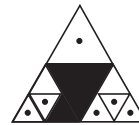


Cevap: B

10. Beyaz + Beyaz = Siyah

Siyah + Siyah = Beyaz

Beyaz + Siyah = Beyaz üstüne benek




Cevap: C


11. I.	27 : 3	9 x 2	18 : 3	6 x 2	12
II.	2 x 3	6 + 2	8 x 3	24 + 2	26
III.	64 : 4	16 x 3	48 : 4	12 x 3	36
IV.	? x 4	+ 3	x 4	+ 3	31
	1 x 4	4 + 3	7 x 4	28 + 3	

Cevap: D


12.



 I. $= \left(\frac{3}{8} \cdot 5^2\right) + \left(8 \cdot \frac{3}{5}\right) = \frac{567}{40}$



 II. $= \left(\frac{5}{8} \cdot 3^2\right) + \left(8 \cdot \frac{5}{3}\right) = \frac{455}{24}$



 III. $= \left(\frac{10}{16} \cdot 6^2\right) + \left(16 \cdot \frac{10}{6}\right)$

$$\begin{aligned}
 &= \frac{45}{16} + \frac{80}{3} \\
 &= \frac{135}{48} + \frac{1280}{48} \\
 &= \frac{1415}{48} \\
 &= \frac{135}{16} + \frac{80}{3} \\
 &= \frac{135}{2 \cdot 8} + \frac{80}{3} \\
 &= \frac{135}{16} + \frac{160}{8} \\
 &= \frac{135}{16} + \frac{320}{16} \\
 &= \frac{455}{16}
 \end{aligned}$$

Cevap: E

13. $8 \blacktriangle 4 = 5 \Rightarrow 8 \cdot 4 = 32 \Rightarrow 3 + 2 = 5$

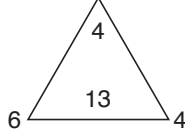
$63 \blacktriangle 24 = 9 \Rightarrow 63 \cdot 24 = 1512 \Rightarrow 1 + 5 + 1 + 2 = 9$

$44 \blacktriangle 12 = 15 \Rightarrow 44 \cdot 12 = 528 \Rightarrow 5 + 2 + 8 = 15$

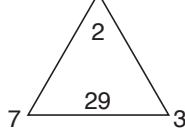
$30 \blacktriangle 10 = ? \Rightarrow 30 \cdot 10 = 300 \Rightarrow 3 + 0 + 0 = 3$

Cevap: B

14.

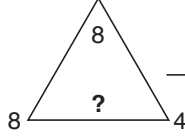
I. 

 $a^2 + b^2 = x \cdot y$

II. 

 $6^2 + 4^2 = 4 \cdot 13$

 $7^2 + 3^2 = 2 \cdot 29$

III. 

 $8^2 + 4^2 = 8 \cdot ?$

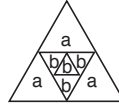
 $64 + 16 = 8 \cdot ?$

 $80 = 8 \cdot ? \Rightarrow ? = 10$

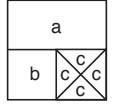
Cevap: B

TASARI AKADEMİ YAYINLARI

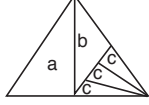
15.

I. 

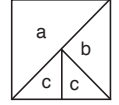
 $7(3a + 4b)4$

II. 

 $6(a + b + 4c)4$

III. 

 $5(a + b + 3c)3$

IV. 

 $4(?)2$

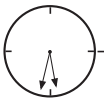
$4(a + b + 2c)2$

 ↓

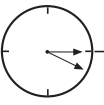
 Parça sayısı Küçük üçgen sayısı

Cevap: E

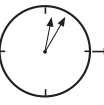
16.

I. 

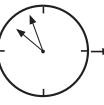
 17:32

II. 

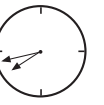
 15:20

III. 

 13:08

IV. 

 10:56

V. 

 08:44

2 saat 12 dk düşüyor.

Cevap: E

17.

●	▲	■
5	13	23
+3 ↙	↘ +6	↘ +15
8	19	38
11	25	53
14	31	68
17	A	B

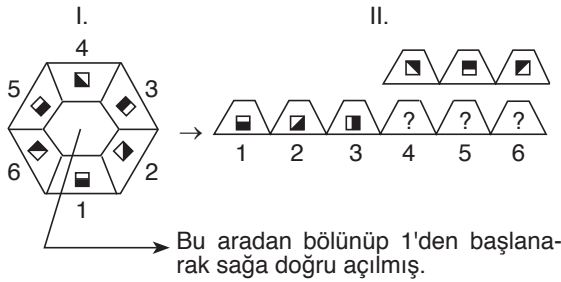
$A = 31 + 6 = 37$

$B = 68 + 15 = 83$

$A + B = 120$ bulunur.

Cevap: A

18.



Cevap: B

19.

$a.c = 16.b$

$a.b = 40$

$b^2 = 3a + 1$

$b.c = 2b^2 \Rightarrow c = 2b$

$a.2b = 16.b$

$a = 8$

$a.b = 40$

$8.b = 40$

$b = 5$

$c = 2b$

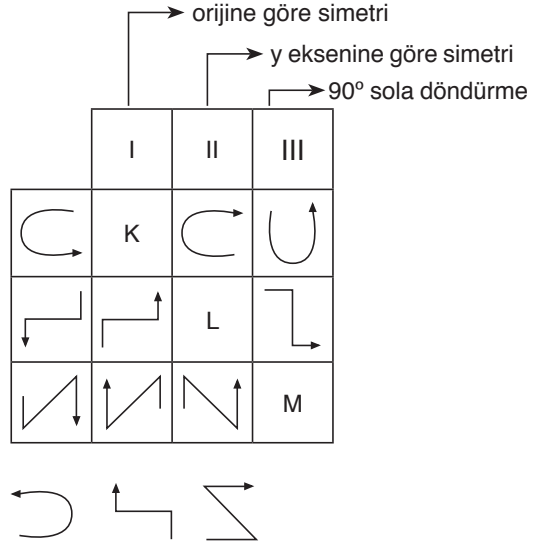
$c = 2.5 = 10$

$a + b + c = ?$

$8 + 5 + 10 = 23$

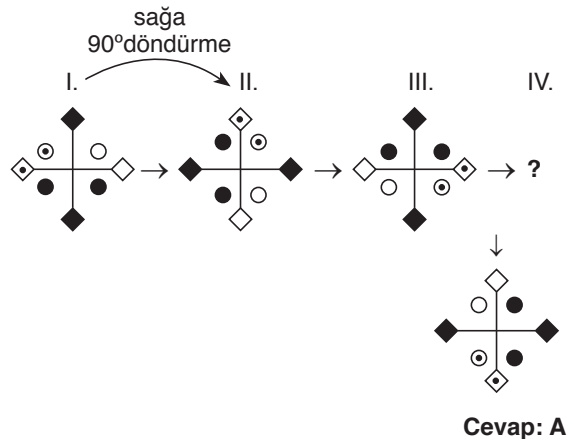
Cevap: D

20.



Cevap: D

21.



Cevap: A

22.

$(9 + 8).2 \rightarrow 34$

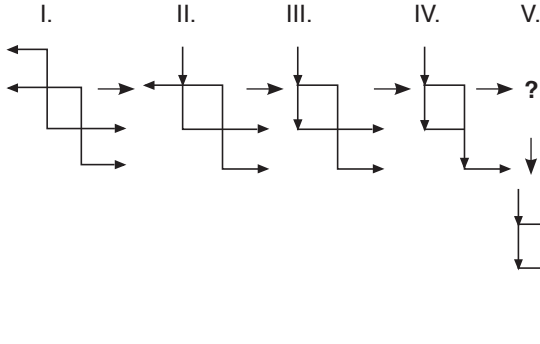
$(6 + 2).2 \rightarrow 16$

$(4 + 8).2 \rightarrow 24$

$(1 + 8).2 \rightarrow 18$

Cevap: B

23. Üstten başlanarak her ok aşağıyı gösterecek şekilde çevrilmiş.



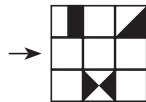
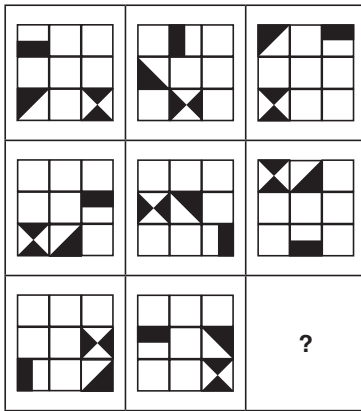
Cevap: E

a	b	c	b	c
3	31	11	$3^3 + 4 = 31$	$3.3 + 2 = 11$
4	68	18	$4^3 + 4 = 68$	$4.4 + 2 = 18$
5	129	27	$5^3 + 4 = 129$	$5.5 + 2 = 27$
7	347	51	$7^3 + 4 = 347$	$7.7 + 2 = 51$
8	b	c	$8^3 + 4 = 516$	$8.8 + 2 = 66$

$b - c = ?$
 $b - c = 516 - 66 = 450$

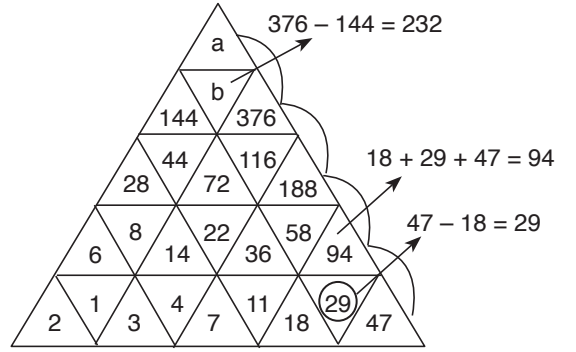
Cevap: D

25. Her şekil yukarı veya saat yönünde ilerliyor. 1'er kare olacak şekilde



Cevap: A

26.

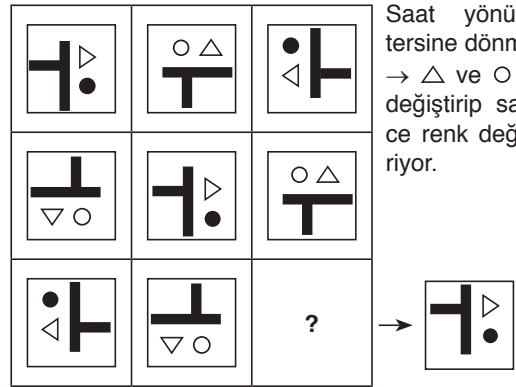


$$a = 144 + 232 + 376 = 752$$

$$b = 232$$

Cevap: D

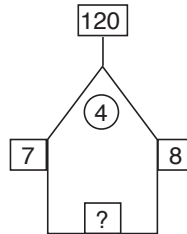
27.



Saat yönünün tersine dönme. $\rightarrow \Delta$ ve \circ yer değiştirip sadece renk değiştiriyor.

Cevap: D

28. I. $(3 + 3).(4 + 5) = 54$
 II. $(4 + 3).(3+9) = 84$



$$(8+7).(4+?) = 120$$

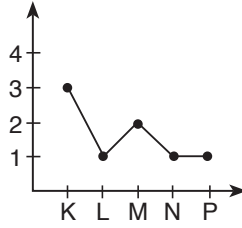
$$15.(4+?) = 120$$

$$4+? = 8$$

$$? = 4$$

Cevap: A

29. → Dilimlere düşen açılar oranlayıp en sade halini grafik üzerinde göstereceğiz.

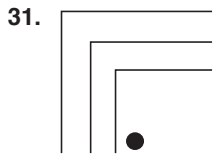


- 45° → 1 N, P ve L
90° → 2 M
135° → 3 K

Cevap: C

- 30.
-
- ? = 53

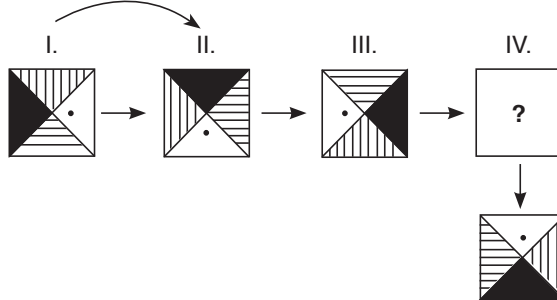
Cevap: C



Yeni bir çizgi eklenip ● çaprazlama olacak şekilde sırayla konmuş.

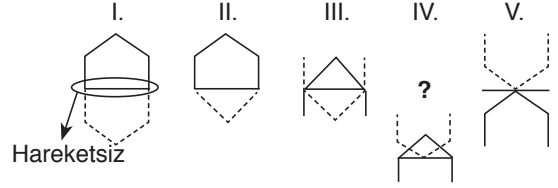
Cevap: B

32. 90° sağa dönmüş.



Cevap: C

- 33.



Hareketsiz

Noktalı yukarı, çizgili aşağı iner. Ortadaki ____ hariç.

Cevap: A

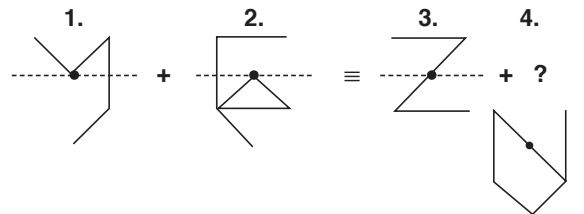
- 34.

Boyali üçgen sayısı ←	K	4	2	0
Çember sayısı ←	L	0	2	2
Boyasız üçgen ←	M	4	0	0



Cevap: C

- 35.



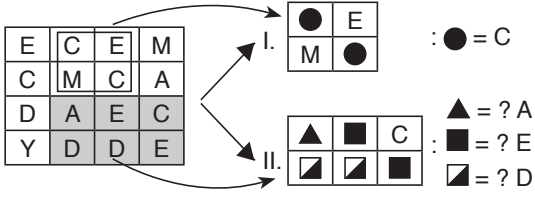
Cevap: C

- 36.



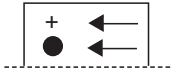
Cevap: A

37.



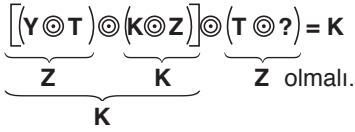
Cevap: C

38.



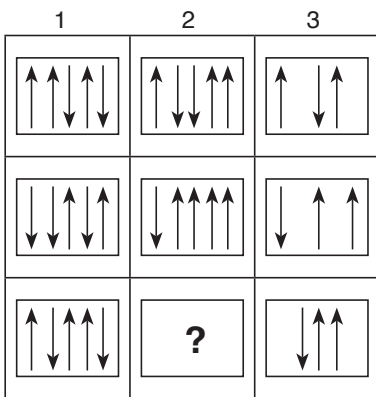
Cevap: C

39. T ⊙ ? = Z

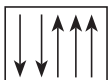


Cevap: B

40.



1 ve 2 toplandı-
ğında üst üste
gelen oklarda
ters yönlüler
birbirini nötürler.
Aynı yönlüler
3.'ye yazılır.



Cevap: C

41. $\frac{1 + \frac{1}{3}}{3 - \frac{1}{3}} - \frac{1}{7} \cdot \left(3 - \frac{1}{5}\right)$

$$= \frac{\frac{4}{3}}{\frac{8}{3}} - \frac{1}{7} \cdot \frac{14}{5}$$

$$= \frac{\cancel{4} \cdot \cancel{3}}{\cancel{3} \cdot \cancel{8}} - \frac{1}{7} \cdot \frac{14}{5}$$

$$= \frac{1}{2} - \frac{2}{5} = \frac{5-4}{10}$$

$$= \frac{1}{10}$$

Cevap: B

42. $\frac{5,8}{0,29} - \frac{0,65}{0,13} = \frac{580}{29} - \frac{65}{13}$

$$= \frac{1,5}{0,75} = \frac{150}{75}$$

$$= \frac{20-5}{2} = \frac{15}{2} = 7,5$$

Cevap: E

43. $\frac{3\sqrt{27} + \sqrt{3}}{2\sqrt{75}}$

$$= \frac{3\sqrt{9 \cdot 3} + \sqrt{3}}{2\sqrt{25 \cdot 3}}$$

$$= \frac{9\sqrt{3} + \sqrt{3}}{10\sqrt{3}} = \frac{10\sqrt{3}}{10\sqrt{3}}$$

$$= 1$$

Cevap: C

$$51. \frac{a}{c} = \frac{\frac{1}{10}}{\frac{4}{5}} = \frac{1}{8} \Rightarrow a = k$$

$$c = 8k$$

$$k \cdot 8k = \frac{25}{18}$$

$$k^2 = \frac{25}{8 \cdot 2 \cdot 9}$$

$$k = \frac{5}{4 \cdot 3} = \frac{5}{12}$$

$$|c| = 8k = 8 \cdot \frac{5}{12} = \frac{10}{3}$$

Cevap: D

$$52. f(-4) = x+1 = -4+1 = -3$$

$$-f(2) = -(2x-3) = -2x+3 = -2 \cdot 2+3$$

$$= 4+3 = -1$$

$$f(0) = x^2-4 = 0^2-4 = -4$$

$$-3-1-4 = -8$$

Cevap: A

$$53. A = \{a, b, c, d, e, f\}$$

$$3 \text{ elemanlı} \rightarrow \binom{6}{3} = \frac{6 \cdot 5 \cdot 4}{3 \cdot 2 \cdot 1} = 20$$

$$4 \text{ elemanlı} \rightarrow \binom{6}{4} = \frac{6 \cdot 5}{2} = 15$$

$$5 \text{ elemanlı} \rightarrow \binom{6}{5} = 6$$

$$6 \text{ elemanlı} \rightarrow \binom{6}{6} = 1$$

$$\Rightarrow 20 + 15 + 6 + 1 = 42 \text{ tane}$$

Cevap: D

$$54. f(x-2) = 2x+9$$

$$x \rightarrow a+2 \text{ diyelim.}$$

$$f(a+2-2) = 2(a+2)+9$$

$$f(a) = 2a+4+9 = 2a+13$$

$$f^{-1}(a) = \frac{a-13}{2}$$

$$f^{-1}(a) = -3$$

$$\frac{a-13}{2} = -3$$

$$a-13 = -6$$

$$\boxed{a=7}$$

Cevap: D

$$55. P(x) = (x-1)(x-3)(x-5)$$

$$\begin{array}{r|l} P(x+3) & x+4 \\ \hline & B(x) \end{array} \quad \begin{array}{l} x+4=0 \\ x=-4 \end{array}$$

$$\frac{-}{K}$$

$P(x+3)$ için $x=-4$ yazalım.

$$P(-4+3) = P(-1) = K \text{ dir.}$$

$$P(-1) = (-1-1)(-1-3)(-1-5) = K$$

$$(-2)(-4)(-6) = K$$

$$-48 = K \text{ olur.}$$

Cevap: B

$$56. a, b, c \in \mathbb{Z}^+$$

$$b < c < a$$

$$a \cdot (c-1) = 21 \cdot b$$

$$\begin{array}{ccc} \downarrow & \downarrow & \downarrow \\ 7 & 3 & 1 \end{array}$$

$$c-1 = 3$$

$$c = 4$$

$$\min(a+b+c) = 7+1+4 = 12 \text{ bulunur.}$$

Cevap: D

$$57. \begin{array}{ccc} A & B & C \\ \hline - & 1 & C & A \\ \hline & 9 & 2 \end{array} \quad \begin{array}{ccc} & 2 & 3 & 4 \\ \hline - & 1 & 4 & 2 \\ \hline & 9 & 2 \end{array}$$

$$A=2 \quad C=4 \quad \text{ve} \quad B=3 \text{ olur.}$$

$$A \cdot B \cdot C = 2 \cdot 3 \cdot 4 = 24 \text{ bulunur.}$$

Cevap: C

$$58. \frac{ab^3+a^2b}{ab+b-a-1} \cdot \frac{a+b^2}{b-1}$$

$$= \frac{ab(b^2+a)}{b(a+1)-(a+1)} \cdot \frac{b-1}{a+b^2}$$

$$= \frac{ab}{(a+1)(b-1)} \cdot \frac{b-1}{1} = \frac{ab}{a+1} \text{ bulunur.}$$

Cevap: D

59. $y < x < z$

$x = a + b$, $y = b + c$ ve $z = a + c$

$y < x$

$x < z$

$b + c < a + b$

$a + b < a + c$

$c < a$

$b < c$

$b < c < a$

Cevap: B

60. $x_1 + x_2 = -\frac{b}{a} = -\frac{[-(a+1)]}{1} = \boxed{a+1 = k}$

$x_1 \cdot x_2 = \frac{c}{a} = \frac{5a-9}{1} = m$

$a+1 = k \Rightarrow a = k-1$

$5a-9 = m \Rightarrow 5a = m+9$

$a = \frac{m+9}{5}$

$k-1 = \frac{m+9}{5}$

$k = \frac{m+9}{5} + 1 = \frac{m+9+5}{5} = \frac{m+14}{5}$

Cevap: D

61. $\frac{x-3}{4} = \frac{y+1}{3} = \frac{z-1}{5} = k$ olsun.

$x-3 = 4k \Rightarrow x = 4k+3$

$y+1 = 3k \Rightarrow y = 3k-1$

$z-1 = 5k \Rightarrow z = 5k+1$

$4k+3+3k-1+5k+1 = 27$

$12k+3 = 27$

$12k = 24$

$k = 2$

$x = 4k+3 = 4 \cdot 2 + 3 = 8 + 3 = 11$

Cevap: C

62. T(r, k) verilen parabolün denklemini

$y = a(x-5)^2 + k$ ile bulunur.

$y = a(x-2)^2 - 1$ 'dir. (0, -9) noktası yerine yazılırsa;

$-9 = a(0-2)^2 - 1$

$-9 = a \cdot 4 - 1$

$-8 = 4a$

$a = -2$ bulunur.

$y = -2(x-2)^2 - 1$ 'dir. Yani,

$f(x) = -2x^2 - 9 + 8x$ 'den

$a = -2$, $b = 8$, $c = -9$ 'dur.

$4a + b - c = 4(-2) + 8 + 9 = -8 + 8 + 9 = 9$

Cevap: E

63. $\left(\frac{2}{3}\right)^{2(3x-1)} = \left(\frac{3}{2}\right)^{4(x-7)}$

$\left(\frac{2}{3}\right)^{6x-2} = \left(\frac{2}{3}\right)^{-4x+28}$

$6x - 2 = -4x + 28$

$10x = 30$

$\boxed{x = 3}$

Cevap: A

64. $\frac{(n-1) \cdot (n-2)!}{(n-2)!} + \frac{(n+1) \cdot n!}{n!} = 24$

$n-1 + n+1 = 24$

$2n = 24$

$n = 12$

Cevap: C

65. $a = \frac{b}{2} = \frac{c}{3} = k$

$a = k$, $b = 2k$, $c = 3k$

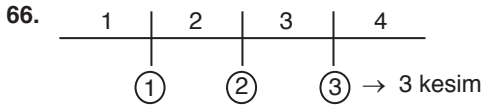
$a + b + c = 48$

$k + 2k + 3k = 48$

$6k = 48 \Rightarrow k = 8$

$c = 3k = 24$

Cevap: D



kesim sayısı

$$\frac{3}{6} \cdot 12 = 6 \cdot ?$$

24 dk

Cevap: D

67.

Anne	Kız
A	50 - A
↓10 yıl	↓10 yıl
$A + 10 = 4(60 - A)$	
$A + 10 = 240 - 4A$	
$5A = 230$	
$A = 46$	

Cevap: D

68. $100x \rightarrow 140x$
 $140x = 56 \text{ cm}$
 $x = \frac{4}{10}$
 $100x = ?$
 $100 \cdot \frac{4}{10} = 40$

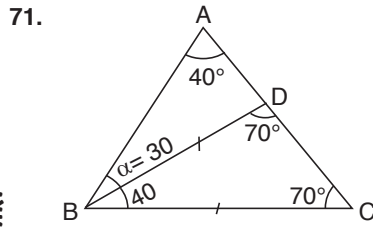
Cevap: B

69. $a_1 = 2 \cdot a_2$
 $a_2 = 3 \cdot a_3$
 \vdots
 $a_{24} = 25 \cdot a_{25}$
 $a_1 = 25! \cdot a_{25}$
 $\frac{2}{25!} = a_{25}$

Cevap: D

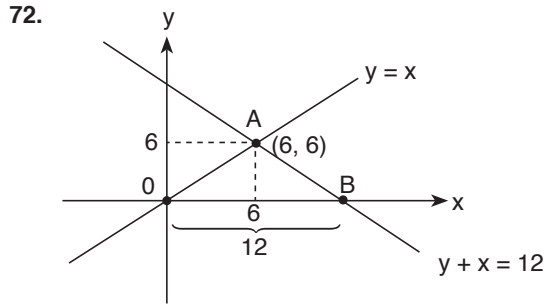
70. 1. satır \rightarrow 1 sayı
 2. satır \rightarrow 3 sayı
 3. satır \rightarrow 5 sayı
 \vdots
 n satır $\rightarrow (2n - 1)$ sayı
 $1 + 3 + 5 + 7 + \dots + (2n - 1) = 441$
 $n^2 = 441$
 $n = 21$ bulunur.

Cevap: C



$\alpha = 30^\circ$ bulunur.

Cevap: C



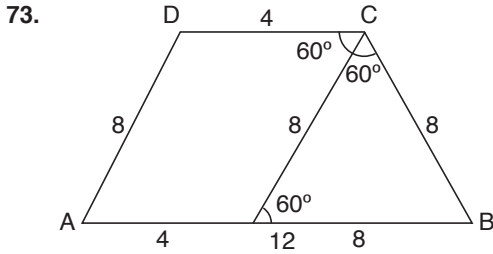
$x + y = 12$ $x = 0$ için $y = 12$ (0, 12)
 $y = 0$ için $x = 12$ (12, 0)

B noktasının koordinatları A noktasının koordinatlarını bulmak için iki doğrunun kesişiminden

$y = x$
 $x + y = 12 \Rightarrow 2y = 12$
 $y = 6$
 $x = 6$ A(6,6)dır.

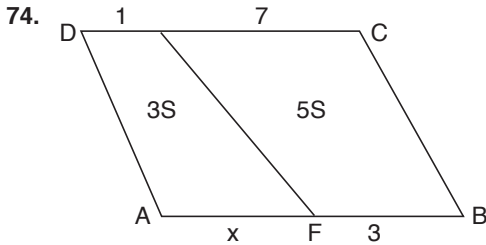
$A(\widehat{AOB}) = \frac{12 \cdot 6}{2} = 36 \text{ cm}^2$ bulunur.

Cevap: C



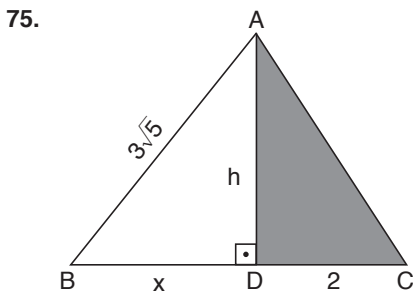
$\alpha = 60^\circ + 60^\circ$
 $\alpha = 120^\circ$

Cevap: C



$5S \rightarrow 10 = 7 + 3$
 $3S \rightarrow 6$ gelmeli
 $1 + x = 6$
 $x = 5$

Cevap: E



ABC üçgeninden

$6 = \frac{h \cdot 2}{2} \Rightarrow h = 6 \text{ cm}$

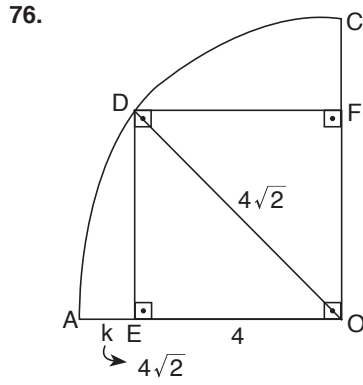
ABD pisagordan,

$x^2 + 6^2 = (3\sqrt{5})^2$
 $x^2 = 45 - 36 = 9$
 $x = 3$

O halde

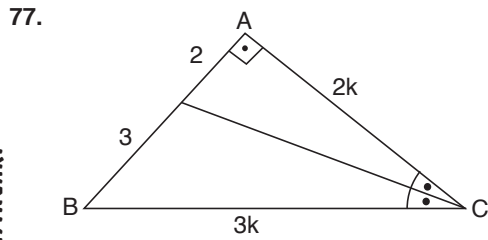
$A(\widehat{ABC}) = \frac{5 \cdot 6}{2} = 15 \text{ cm}^2$ dir.

Cevap: B



$K = 4\sqrt{2} - 4$ olur.

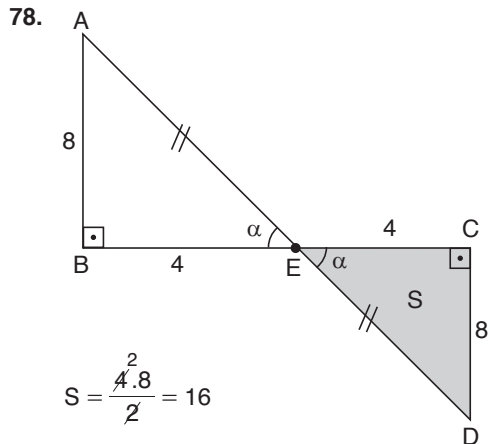
Cevap: D



$(2k)^2 + 5^2 = (3k)^2$
 $4k^2 + 25 = 9k^2$
 $25 = 5k^2$
 $5 = k^2$
 $k = \sqrt{5}$

$|BC| = 3k = 3\sqrt{5}$

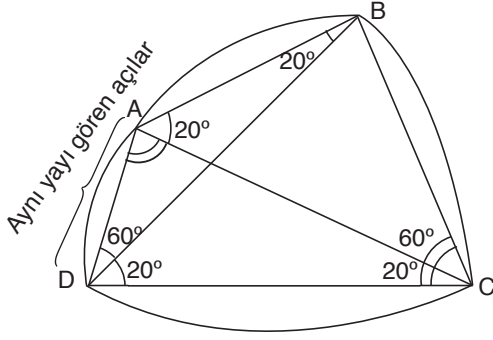
Cevap: C



$S = \frac{4 \cdot 8}{2} = 16$

Cevap: B

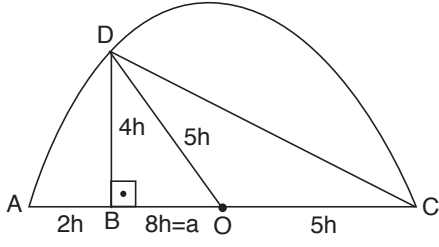
79.



$$|AC| = |DC|$$

Cevap: A

80.



$$(5h)^2 = (4h)^2 + a^2$$

3-4-5 üçgeninden

$$a = 3h$$

 $x + a = r$ olduğundan

$$x + 3h = 5h$$

$$x = 2h$$

Cevap: B