

ÇÖZÜMLERİ

1. $2 = 1^2 + 1$

$6 = 2^2 + 2$

$12 = 3^2 + 3$

⋮

$? = 10^2 + 10$

Cevap: D

2. $\triangle \rightarrow 1, 3, 9, 27, 81$

$\Rightarrow 3^0, 3^1, 3^2, 3^3, 3^4, \dots$

$\square = \triangle \times 2 \Rightarrow \triangle = 81 \Rightarrow = 81.2 = 162$

(Solundaki üçgen içinin 2 katı)

Cevap: A

3.

5	4
6	3

 $\left. \begin{array}{l} 5.4 = 20 \\ 6 - 3 = 3 \end{array} \right\} \Rightarrow 20 - 3 = 17$

6	3
5	1

 $\left. \begin{array}{l} 6.3 = 18 \\ 5 - 1 = 4 \end{array} \right\} \Rightarrow 18 - 4 = 14$

8	5
2	1

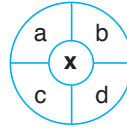
 $\left. \begin{array}{l} 8.5 = 40 \\ 2 - 1 = 1 \end{array} \right\} \Rightarrow 40 - 1 = 39$

4	3
5	4

 $\left. \begin{array}{l} 4.3 = 12 \\ 5 - 4 = 1 \end{array} \right\} \Rightarrow 12 - 1 = 11$

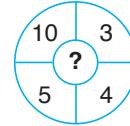
Cevap: A

4.



$\rightarrow a.b - c.d = x$

$\Rightarrow$



$\rightarrow 10.3 - 5.4 = 30 - 20 = 10$

Cevap: D

5. $K = 4 \quad I = 2 \quad A = 5 \quad S = 6 \quad N = 7 \quad M = 3$

$\Rightarrow \text{MASA} = 3565$

Cevap: B

6. $A = 5 \quad E = 6 \quad İ = 7 \quad M = 4 \quad T = 2 \quad Ş = 3$

$\Rightarrow \text{ŞEMA} = 3645$

Cevap: E

7. $\triangle \rightarrow a, \bullet \rightarrow b, \square \rightarrow c$

I. $3a = 2b$ II. $3b = 2c$ III. $2C = ?$

$\frac{a}{b} = \frac{2.2k}{3.2k} = \frac{4k}{6k} \quad \frac{b}{c} = \frac{2.3}{3.3} = \frac{6k}{9k}$

$\left. \begin{array}{l} \triangle = 4k \\ \bullet = 6k \\ \square = 9k \end{array} \right\} \Rightarrow 2c = 2.9k = 18k$

Seçeneklerden D seçeneği

$\triangle \triangle \triangle = 4k + 4k + 4k + 6k = 18k$

Cevap: D

8. $a^3 = 27 \Rightarrow a = 3$

$$\sqrt[3]{b-1} = 2 \Rightarrow b-1 = 8 \Rightarrow b = 9$$

$$\Rightarrow 27 \triangle 2 = 3 + 9 + 1 = 13$$

Cevap: C

9. $6 \square 5 = 28 \Rightarrow (6+1)(5-1) = 28$

$$7 \square 3 = 16 \Rightarrow (7+1)(3-1) = 16$$

$$8 \square 4 = 27 \Rightarrow (8+1)(4-1) = 27$$

$$\Rightarrow a \square b = (a+1)(b-1)$$

Cevap: B

10. $\left. \begin{array}{l} 3a = 27 \Rightarrow a = 9 \\ 2b = 12 \Rightarrow b = 6 \end{array} \right\} \Rightarrow 27 \odot 12 = 9 + 6 = 15$

$$\left. \begin{array}{l} 3a = 3 \Rightarrow a = 1 \\ 2b = 4 \Rightarrow b = 2 \end{array} \right\} \Rightarrow 3 \odot 4 = 1 + 2 = 3$$

$$(27 \odot 15) \square (3 \odot 4) = 15 \square 3$$

$$\Rightarrow 2a + 1 = 15 \Rightarrow 2a = 14 \Rightarrow a = 7$$

$$b + 1 = 3 \Rightarrow b = 2$$

$$\Rightarrow 15 \square 3 = 7 - 2 \cdot 2 = 7 - 4 = 3$$

Cevap: E

11. $a + a = 3a - 8 \Rightarrow a = 8$

$$b + b = a - 2 \Rightarrow 2b = 6 \Rightarrow b = 3$$

$$c + c = b + 5 \Rightarrow 2c = 8 \Rightarrow c = 4$$

Cevap: C

12. $\left. \begin{array}{l} b^2 = 2a \\ c^2 = 18a \end{array} \right\} \Rightarrow b^2 \cdot c^2 = 36a^2 \Rightarrow b \cdot c = 6a$

$$\Rightarrow bc = 108 = 6a \Rightarrow a = 18$$

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

Cevap: E

13. $\left. \begin{array}{l} a + b = c + 7 \\ b + c = 4a - 7 \end{array} \right\} \Rightarrow a + b = 4a - b \Rightarrow 2b = 3a$

$$\Rightarrow a = 2k, b = 3k$$

$$\Rightarrow a \cdot b = 6k^2 = 96 \Rightarrow k^2 = 16 \Rightarrow k = 4$$

$$\Rightarrow a = 8, b = 12 \Rightarrow c + 7 = 8 + 12 \Rightarrow c = 13$$

Cevap: D

14. $m + 1 + b = m + 5 \Rightarrow b = 4$

$$n - 1 + d = n + 1 \Rightarrow d = 2$$

$$\Rightarrow L = b:d \Rightarrow L = 4:2 = 2$$

Cevap: E

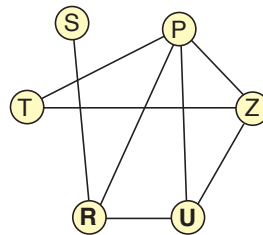
15. $a + n + 2 = n + 20 \Rightarrow a = 18$

$$m - 2 + d = m + 4 \Rightarrow d = 6$$

$$\Rightarrow K.L = (a:b) \cdot (b:d) = \frac{a}{b} \cdot \frac{b}{d} = \frac{a}{d} = \frac{18}{6} = 3$$

Cevap: D

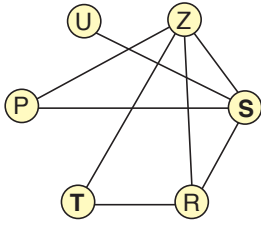
16.



$$\Rightarrow X = R ; Y = U$$

Cevap: B

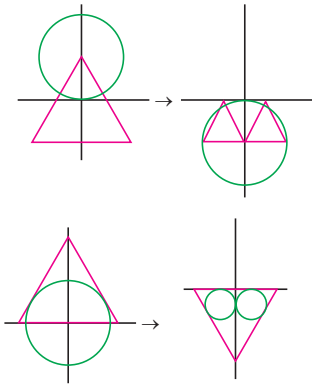
17.



$$\Rightarrow X = S ; Y = T$$

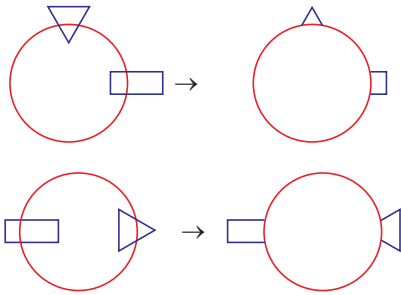
Cevap: D

18.



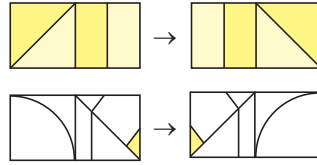
Cevap: A

19.



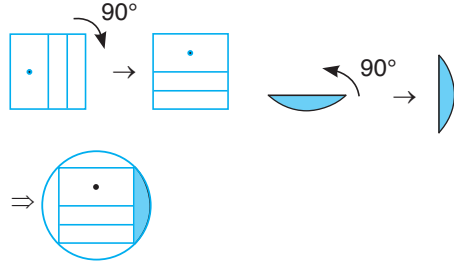
Cevap: B

20.



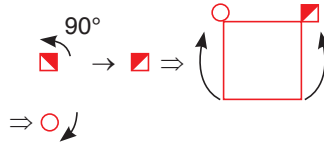
Cevap: C

21.



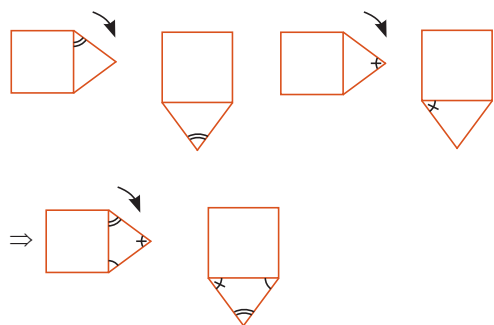
Cevap: A

22.



Cevap: B

23.



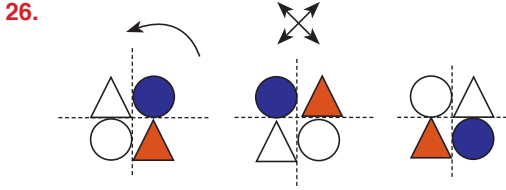
Cevap: E

24. $\begin{bmatrix} | & - \end{bmatrix}$

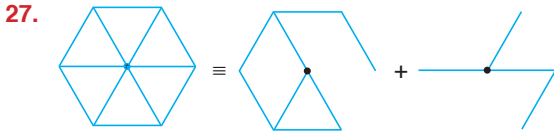
Cevap: D



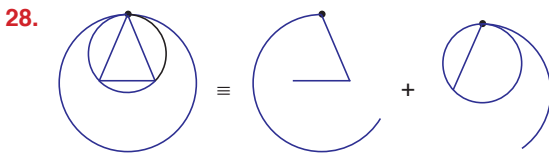
Cevap: B



Cevap: D



Cevap: C



Cevap: C

29. $N \rightarrow 90^\circ \rightarrow 20 \rightarrow \frac{20}{90} = \frac{2}{9}$

$P \rightarrow 27^\circ \rightarrow 6 \rightarrow \frac{6}{27} = \frac{2}{9}$

$\rightarrow 90^\circ + 27^\circ + 72 + 45^\circ = 234^\circ$

$\rightarrow 360^\circ - 234^\circ = 126^\circ (T)$

$\rightarrow \frac{T}{126} = \frac{2}{9} \Rightarrow 9T = 252 \Rightarrow T = 28$

Cevap: A

30. $3 - 1 = 2$

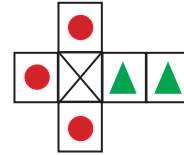
$2 - 1 = 1$

$4 - 3 = 1$

$5 - 2 = 3$

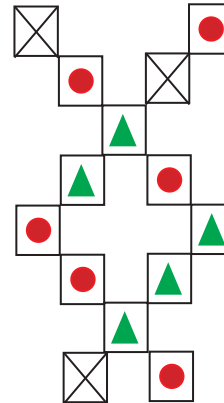
Cevap: A

31.



($\bullet$ sayısı) $\times$ ($\otimes$ sayısı) + ($\blacktriangle$ sayısı) + Toplam kare sayısı

O halde



$\rightarrow 6 \cdot 3 + 5 + 14$
 $= 23 + 14$
 $= 37$ bulunur.

Cevap: D

32. * 2 1 3 6 → 2 6 3 6 (Dağılıma özelliği kullanılmış.



Önce 2 rakam, sonra 3 rakam en son hepsinin çarpımı)

* 5 2 1 3 → 1 0 1 0 3 0

* 2 7 2 4 → 1 4 2 8 1 1 2

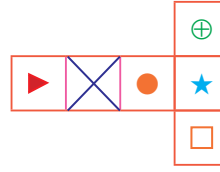
O halde

9 3 2 4 1 → 2 7 5 4 2 1 6 2 1 6 olur.



Cevap: A

35.



⊕ → □
▲ → ●
★ → X

Cevap: B

33. ABC → BAC

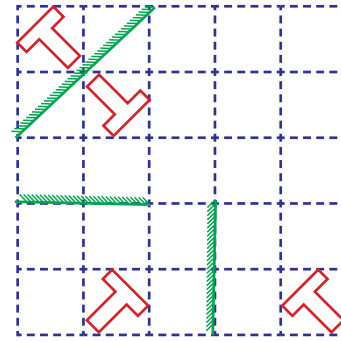
KLM → LKM → MKL

CDE → EDC → DDDCCE

MNZ → ZNM → NZM → ZZZMMN

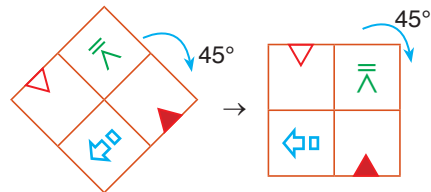
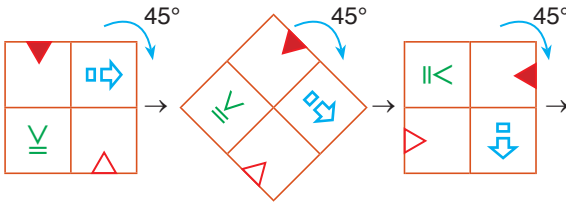
Cevap: A

36.



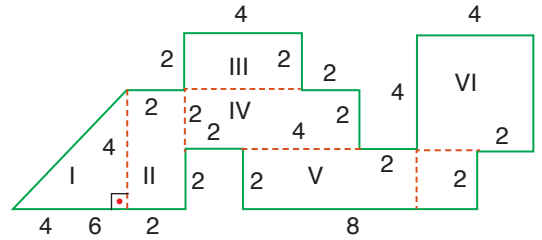
Cevap: C

34.



Cevap: E

37.



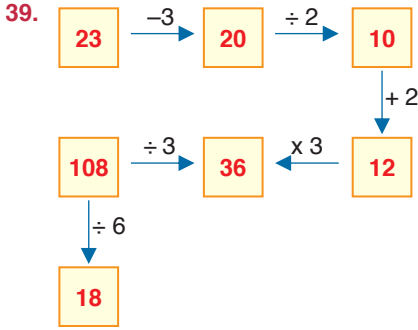
$$\begin{aligned}
 I &\rightarrow \frac{4 \cdot 4}{2} = 8 \text{ br}^2 \\
 II &\rightarrow 2 \cdot 4 = 8 \text{ br}^2 \\
 III &\rightarrow 2 \cdot 4 = 8 \text{ br}^2 \\
 IV &\rightarrow 2 \cdot 6 = 12 \text{ br}^2 \\
 V &\rightarrow 2 \cdot 8 = 16 \text{ br}^2 \\
 + VI &\rightarrow 4 \cdot 4 = 16 \text{ br}^2 \\
 \hline
 &68 \text{ br}^2
 \end{aligned}$$

Cevap: A

38. Küplere üstten bakılmış. O halde cevabımız B seçeneği olur.

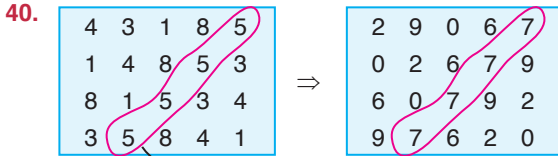


Cevap: B



$$A + B + C = 20 + 10 + 18 = 48$$

Cevap: E



Bu köşegenden hareketle şıklar incelendiğinde kolaylıkla sonuca ulaşılır.

Kodlama ise

$$4 \rightarrow 2$$

$$3 \rightarrow 9$$

$$1 \rightarrow 0$$

$$8 \rightarrow 6$$

$$5 \rightarrow 7 \text{ ile kodlanmıştır.}$$

Cevap: C

41.

$$\frac{2^{x-7} (2^2 + 2^1 + 1)}{2^{x-10} (2^2 + 2^1 + 2)}$$

$$= \frac{2^{x-7}}{2^{x-10}} = 2^{x-7-x+10} = 2^3 = 8$$

Cevap: D

42.

$$\frac{\sqrt{2}(\sqrt{2} + \sqrt{3}) + 3(\sqrt{2} + \sqrt{3})}{\sqrt{2} + \sqrt{3}} - \frac{2}{\sqrt{2}}$$

$$= \frac{(\sqrt{2} + \sqrt{3})(\sqrt{2} + 3)}{\sqrt{2} + \sqrt{3}} - \frac{2\sqrt{2}}{\sqrt{2}}$$

$$= \sqrt{2} + 3 - \sqrt{2} = 3$$

Cevap: B

43. $x = \sqrt{5} - \sqrt{2} - \sqrt{3}$

$$y = \sqrt{3} + \sqrt{2} - \sqrt{5}$$

$$\Rightarrow y = -x$$

$$\frac{x^2 + y^2}{x \cdot y} = \frac{x^2}{xy} + \frac{y^2}{xy} = \frac{x}{y} + \frac{y}{x} = \frac{x}{-x} + \frac{-x}{x}$$

$$= -1 - 1 = -2$$

Cevap: D

44.

$$\frac{10}{-1 + \frac{18}{1 + \frac{6}{x-2}}} = 2 \Rightarrow -1 + \frac{18}{1 + \frac{6}{x-2}} = 5$$

$$\frac{18}{1 + \frac{6}{x-2}} = 6 \Rightarrow 1 + \frac{6}{x-2} = 3 \Rightarrow \frac{6}{x-2} = 2$$

$$\Rightarrow x = 5$$

Cevap: E

$$45. \frac{(3^2+1)(3^4-3^2+1)}{3^4-8} + \frac{(2^4-1)(2^8+2^4+1)}{2^8+17}$$

$$= \frac{10 \cdot (3^4-8)}{3^4-8} + \frac{15 \cdot (2^8+17)}{2^8+17} = 25$$

Cevap: C

$$46. \frac{1}{x-5} = A \Rightarrow \frac{1}{x^2-10x+25} = A^2$$

$$\Rightarrow A^2 + A = 0 \Rightarrow A(A+1) = 0$$

$$\Rightarrow A = 0, A = -1 \Rightarrow \frac{1}{x-5} \neq 0 \Rightarrow \frac{1}{x-5} = -1$$

$$\Rightarrow x-5 = -1 \Rightarrow x = 4$$

Cevap: A

$$47. f(x) = |x-3| - |2x+6| = 0$$

$$\Rightarrow |x-3| - |2x+6| \Rightarrow x_1 - 3 = 2x_1 + 6,$$

$$x_2 - 3 = -2x_2 - 6$$

$$\Rightarrow x_1 = -9, 3x_2 = -3 \Rightarrow x_1 = -9, x_2 = -1$$

$$\Rightarrow x_1 + x_2 = -10$$

Cevap: A

$$48. \left. \begin{aligned} 3a + \frac{2}{b} &= 4 \Rightarrow \frac{3ab+2}{b} = 4 \Rightarrow 3ab+2 = 4b \\ b + \frac{2}{3a} &= 3 \Rightarrow \frac{3ba+2}{3a} = 3 \Rightarrow 3ab+2 = 9a \end{aligned} \right\}$$

$$\Rightarrow 4b = 9a$$

$$\Rightarrow b = 9k \quad a = 4k \quad \frac{a}{b} = \frac{4}{9}$$

Cevap: B

$$49. \left(x - \frac{1}{2x}\right)^2 = 3^2 \Rightarrow x^2 + \frac{1}{4x^2} - 2 \cdot x \cdot \frac{1}{2x} = 9$$

$$x^2 + \frac{1}{4x^2} = 10 \Rightarrow 4 \cdot \left(x^2 + \frac{1}{4x^2}\right) = 4 \cdot 10$$

$$\Rightarrow 4x^2 + \frac{1}{x^2} = 40$$

Cevap: E

$$50. (x-1)(x^2+x+1) = 0 \cdot (x-1)$$

$$\Rightarrow x^3 - 1 = 0 \Rightarrow x^3 = 1$$

$$\Rightarrow x^{18} + x^{12} + x^8 + x = (x^3)^6 + (x^3)^4 + (x^3)^2 \cdot x^2 + x$$

$$= 1^6 + 1^4 + 1^2 \cdot x^2 + x = 1 + 1 + x^2 + x$$

$$\Rightarrow x^2 + x = -1 \Rightarrow 1 + 1 + x^2 + x = 1 + 1 - 1 = 1$$

Cevap: E

$$51. f(2) = f(0+2) = 0 - 7 = -7$$

$$f(4) = f(2+2) = 2 - 7 = -5$$

$$f(5) = f(3+2) = 2 \cdot 3 + 1 = 7$$

$$f(6) = f(4+2) = 2 \cdot 4 + 1 = 9$$

$$(-7) + (-5) + (7) + (9) = 4$$

Cevap: C

$$52. \frac{\frac{13}{5} - \frac{5}{3}}{\frac{1}{3} + \frac{1}{4}} + \frac{2}{5}$$

$$= \frac{\frac{39-25}{15}}{\frac{4+3}{12}} + \frac{2}{5}$$

$$= \frac{\frac{14}{15} \cdot \frac{12}{7}}{\frac{12}{7}} + \frac{2}{5}$$

$$= \frac{8}{5} + \frac{2}{5} = \frac{10}{5} = 2 \text{ bulunur.}$$

Cevap: D

$$53. \frac{10^7 - 10^6}{5^8 - 5^7 + 5^6} = \frac{10^6(10^1 - 1)}{5^6(5^2 - 5 + 1)}$$

$$= \frac{10^6 \cdot 9}{5^6 \cdot 21}$$

$$= \frac{5^6 \cdot 2^6 \cdot 3}{5^6 \cdot 7}$$

$$= \frac{192}{7} \text{ bulunur.}$$

Cevap: D

54. $\frac{10! - 9! - 8!}{8! + 7! + 6!} = \frac{8!(10 \cdot 9 - 9 - 1)}{6!(8 \cdot 7 + 7 + 1)}$

$$= \frac{8 \cdot 7 \cdot 8! 80}{8! (64)}$$

$$= \frac{7 \cdot 80}{8}$$

= 70 bulunur.

Cevap: A

55. A = 3 , B = 5 , C = 6 $\Rightarrow$ 653

$$\begin{array}{r} 653 \\ 65 \\ + 6 \\ \hline 724 \end{array}$$

56. $x \cdot z < x \cdot y < 0 < x \cdot y \cdot z$

$$z < y < 0$$

I. $x > 0, y < 0, z < 0$ olur.

II. $x < 0, y > 0, z > 0$ olduğu takdirde

$x \cdot y \cdot z < 0$ olur.

O halde

$z < y < 0 < x$ olur.

Cevap: E

57. $x \neq y \neq z \neq 0$

$$5x = 4y = z = 20k$$

$$x = 4k, y = 5k \text{ ve } z = 20k$$

$$\frac{4}{x} + \frac{3}{y} + \frac{1}{z} = \frac{33}{5}$$

$$\frac{4}{4k} + \frac{3}{5k} + \frac{1}{20k} = \frac{33}{5}$$

$$\frac{33}{20k} = \frac{33}{5}$$

$$20k = 5 \Rightarrow k = \frac{1}{4}$$

O halde $z = 20k = 20 \cdot \frac{1}{4} = 5$ bulunur.

Cevap: C

58. $\frac{5^x}{5^{1-x}} = 25^{x-1} + 100$

$$5^{2x-1} = 5^{2x-2} + 100$$

$$5^{2x-1} - 5^{2x-2} = 100$$

$$5^{2x} \left(\frac{1}{5} - \frac{1}{25} \right) = 100$$

$$5^{2x} \cdot \frac{4}{25} = 100$$

$$5^{2x} = 625 = 5^4$$

$$2x = 4 \Rightarrow x = 2 \text{ bulunur.}$$

Cevap: C

59. 1. $|a| - a = 24$

$$|a| = 24 + a$$

I. $a = 24 + a$ olamaz.

$$-a = 24 + a$$

$$-2a = 24 \Rightarrow a = -12 \text{ olur.}$$

2. $b - |b + 10| = a$

$$b - a = |b + 10|$$

$\downarrow$

$$-12$$

I. $b + 12 = b + 10$ olamaz.

II. $b + 12 = -b - 10$

$$2b = -22$$

$$b = -11$$

O halde $a + b = -12 - 11 = -23$ bulunur.

Cevap: A

60. • $A(y) = \{x \in \mathbb{Z} : 12 \leq x \leq y^2\}$

$$A(11) = 12 \leq x \leq 121$$

• $B(y) = \{x \in \mathbb{Z} : y^2 \leq x \leq 150\}$

$$B(8) = 64 \leq x \leq 150$$

O halde

$$A(11) \cap B(8) \text{ için}$$

$$12 \leq x \leq 121$$

$$64 \leq x \leq 150$$

$$64 \leq x \leq 121$$

$$n[A(11) \cap B(8)] = 58 \text{ elemanlıdır.}$$

Cevap: B

$$61. \begin{array}{r} \text{AOB} \\ - \quad \quad \\ \hline 0 \end{array} \begin{array}{r} 5 \\ \quad C \\ \hline \end{array} \quad \begin{array}{r} C \\ - \quad \quad \\ \hline A \end{array} \begin{array}{r} 23 \\ \quad B \\ \hline \end{array}$$

$$100A + B = 5C \quad C = 23B + A$$

$$100A + B = 5 \cdot (23B + A)$$

$$100A + B = 115B + 5A$$

$$95A = 114B$$

$$\begin{array}{cc} \downarrow & \downarrow \\ 6 & 5 \end{array}$$

O halde $A \cdot B = 6 \cdot 5 = 30$ bulunur.

Cevap: D

$$62. f(x+2) = x+4$$

$$g(x+1) = f(x) + 2$$

$$I. (f \circ g)(3) = f(g(3))$$

$$g(3) = ? \quad x = 2 \text{ için}$$

$$g(3) = f(2) + 2 = 6$$

$$f(2) \text{ için } x = 0$$

$$f(2) = 4$$

$$\text{Burada } f(6) = ?$$

$$f(6) \text{ için } x = 4 \text{ alınır.}$$

$$f(6) = 8 \text{ bulunur.}$$

$$II. (f \cdot g)(2) = f(2) \cdot g(2)$$

$$f(2) = 4, g(2) \text{ için } x = 1 \text{ alınır.}$$

$$g(2) = f(1) + 2$$

$$f(1) \text{ için } x = -1 \text{ alınır.} \quad f(1) = -1 + 4 = 3$$

$$g(2) = 3 + 2 = 5$$

$$(f \cdot g)(2) = f(2) \cdot g(2) = 4 \cdot 5 = 20 \text{ bulunur.}$$

$$\Rightarrow \frac{(f \circ g)(3)}{(f \cdot g)(2)} = \frac{8}{20} = \frac{2}{5}$$

Cevap: B

$$63. (x^2 - x + 1) = 0 \text{ Her iki tarafı } (x+1) \text{ ile çarpalım.}$$

$$(x+1)(x^2 - x + 1) = 0$$

$$x^3 + 1 = 0 \Rightarrow x^3 = -1 \text{ olur.}$$

$$P(x) = x^{47} - 3x^{15} + x - 2$$

$$= x^2 \cdot \underbrace{(x^3)^{15}}_{-1} - 3 \cdot \underbrace{(x^3)^5}_{-1} + x - 2$$

$$= -x^2 + 3 + x - 2$$

$$= -x^2 + x + 1$$

İlk yazdığımız $x^2 - x + 1 = 0$ 'dan

$$1 = -x^2 + x$$

$$= 1 + 1 = 2 \text{ bulunur.}$$

Cevap: C

$$64. P(x) = ax + b \text{ olmalı.}$$

$$P(2x+3) = a(2x+3) + b$$

$$= 2ax + 3a + b$$

$$P(x) + P(2x+3) = 6x + 12$$

$$\downarrow \quad \downarrow$$

$$ax + b + 2ax + 3a + b = 6x + 12$$

$$\boxed{\quad}$$

$$3ax + 3a + 2b = 6x + 12$$

$$3ax = 6x \text{ ve } 3a + 2b = 12$$

$$2b = 6 \quad b = 3$$

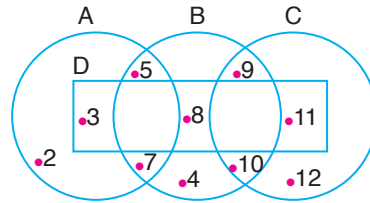
$$P(x) = 2x + 3 \text{ bulunur.}$$

$$P(1-x) = 2(1-x) + 3 = 2 - 2x + 3$$

$$= -2x + 5 \text{ olur.}$$

Cevap: B

65.



$$A = \{2, 3, 5, 7\}$$

$$B = \{4, 5, 7, 8, 9, 10\}$$

$$C = \{9, 10, 11, 12\}$$

$$D = \{3, 8, 11\}$$

$$x = 8, y = 8, z = 12, m = 11$$

$$\Rightarrow x + y + z - m = 8 + 8 + 12 - 11$$

$$= 11 \text{ bulunur.}$$

Cevap: B

$$66. a - b = 4$$

$$c - d = -6$$

$$\Rightarrow a \cdot c + b \cdot d - b \cdot c - a \cdot d - b + a - c + d = ?$$

$$= c(a - b) - d(a - b) + (a - b) - (c - d)$$

$$= \underbrace{(a - b)}_4 \cdot \underbrace{(c - d)}_{-6} + \underbrace{(a - b)}_4 - \underbrace{(c - d)}_{-6}$$

$$= -24 + 4 + 6$$

$$= -14 \text{ bulunur.}$$

Cevap: C

67. $\frac{\sqrt{a+1} + \sqrt{25a^2 + 25a}}{25a-1} = 1$

$$\sqrt{a+1} + 5\sqrt{a(a+1)} = 25a-1$$

$$\sqrt{a+1}(1+5\sqrt{a}) = (5\sqrt{a}-1)(5\sqrt{a}+1)$$

$$\sqrt{a+1} = 5\sqrt{a}-1$$

$$(\sqrt{a+1})^2 = (5\sqrt{a}-1)^2$$

$$a+1 = 25a-10\sqrt{a}$$

$$10\sqrt{a} = 24a \Rightarrow 10\sqrt{a} = 24 \cdot \sqrt{a} \cdot \sqrt{a}$$

$$\frac{10}{24} = \sqrt{a}$$

$$a = \left(\frac{10}{24}\right)^2 = \frac{100}{576}$$

$$= \frac{25}{144} \text{ bulunur.}$$

Cevap: B

68. $x < 0 < y < 3 < z$

$$\begin{array}{ccc} \downarrow & \downarrow & \downarrow \\ -1 & 1,2 & 4 \end{array}$$

$$\underbrace{|x-y|}_{-} + \underbrace{|z-x|}_{+} + \underbrace{|3-z-y|}_{-} = ?$$

$$= x+y+z-x-3+z+y$$

$$= -2x+2y+2z-3$$

$$= -2(x-y-z)-3$$

$$= -2(11)-3$$

$$= -22-3 = -25 \text{ bulunur.}$$

Cevap: A

69. Doğrusal grafiğin denklemini yazalım.

$$\frac{x}{-3} + \frac{y}{6} = 1 \Rightarrow -2x + y = 6$$

$$f(x) = y = 2x + 6$$

O halde

$$f(5) = 2 \cdot 5 + 6 = 10 + 6 = 16 \text{ bulunur.}$$

Cevap: A

70. $\frac{2-x}{3} \leq \frac{x-2}{2} < \frac{21-3x}{4}$

$$8-4x \leq 6x-12 < 63-9x$$

$$\text{I. } 8-4x \leq 6x-12 \quad \text{II. } 6x-12 < 63-9x$$

$$20 \geq 10x$$

$$15x < 75$$

$$2 \leq$$

$$x < 5$$

$$2 \leq x < 5$$

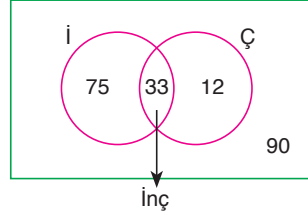
$$2, 3, 4$$

$$\Sigma x = 2 + 3 + 4 = 9 \text{ bulunur.}$$

Cevap: C

71.

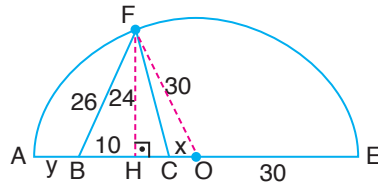
Okul: 210



Her iki derse katılmayan 90 öğrenci vardır.

Cevap: D

72.



(5-12-13 üçgeninden)

$$|FH| = 24 \text{ br olur.}$$

|FO| doğrusunu çizdiğimizde $\widehat{FHO}$ üçgeninden

$$(10+x)^2 + 24^2 = 26^2 \Rightarrow x = 8 \text{ bulunur.}$$

veya (3-4-5 üçgeninden)

$$|HO| = 18 \text{ br}$$

$$\text{Buradan } x + 10 = 18$$

$$x = 8 \text{ br}$$

$$\text{Buradan } y + 20 + x = 30 \Rightarrow y = 2 \text{ br}$$

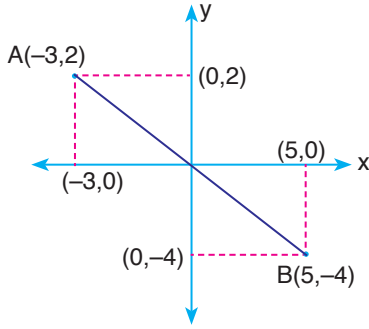
$$\downarrow$$

$$8$$

$$x - y = 8 - 2 = 6 \text{ br bulunur.}$$

Cevap: D

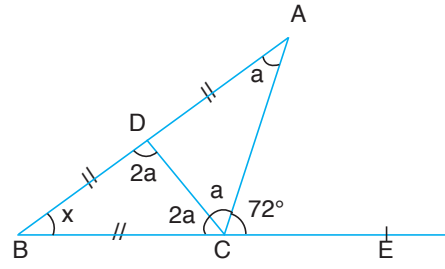
73.



$$\begin{aligned}
 |AB| &= \sqrt{(-3-5)^2 + (2+4)^2} \\
 &= \sqrt{64+36} \\
 &= \sqrt{100} \\
 |AB| &= 10 \text{ br bulunur.}
 \end{aligned}$$

Cevap: C

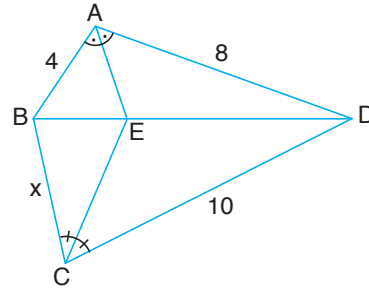
75.



$$\begin{aligned}
 m(\widehat{CAD}) &= a \Rightarrow m(\widehat{DCA}) = a \Rightarrow m(\widehat{BDC}) = 2a \\
 m(\widehat{BCD}) &= 2a \\
 72 + 3a &= 180 \Rightarrow 3a = 108 \Rightarrow a = 36^\circ \\
 x + a &= 72 \Rightarrow x + 36 = 72 \Rightarrow x = 36^\circ
 \end{aligned}$$

Cevap: D

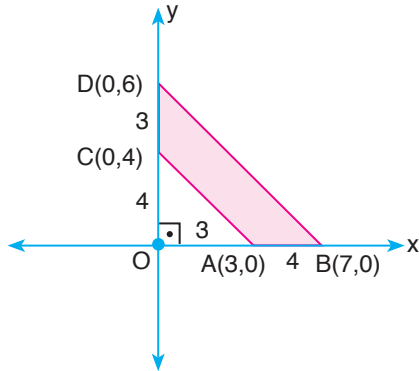
76.



$$\begin{aligned}
 \frac{|AB|}{|AD|} &= \frac{|BC|}{|ED|} \Rightarrow \frac{4}{8} = \frac{|BE|}{|ED|} \Rightarrow \frac{|BE|}{|ED|} = \frac{1}{2} \\
 \frac{|BC|}{|CD|} &= \frac{|BE|}{|ED|} \Rightarrow \frac{x}{10} = \frac{1}{2} \Rightarrow 2x = 10 \\
 \Rightarrow x &= 5
 \end{aligned}$$

Cevap: C

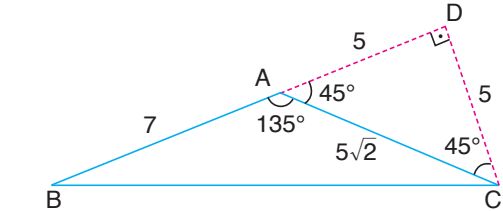
74.



$$\begin{aligned}
 A(\widehat{OBD}) - A(\widehat{OAC}) &= A(ABDC) \\
 \downarrow \\
 \frac{7 \cdot 6}{2} - \frac{3 \cdot 4}{2} &= A(ABDC) \\
 21 - 6 &= A(ABDC) \\
 15 \text{ br}^2 &= A(ABDC)
 \end{aligned}$$

Cevap: E

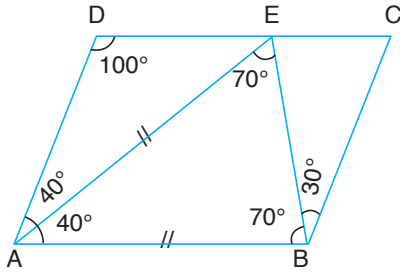
77.



$$\begin{aligned}
 |BD| &\perp |CD| \quad m(\widehat{CAD}) = 45^\circ \\
 \Rightarrow |AD| &= 5 \quad |DC| = 5 \\
 \Rightarrow |BC|^2 &= |BD|^2 + |DC|^2 \\
 \Rightarrow |BC|^2 &= 5^2 + 12^2 = 169 \\
 \Rightarrow |BC| &= 13
 \end{aligned}$$

Cevap: E

78.



$$|DC| \parallel |AB| \Rightarrow m(\widehat{DAB}) = 180^\circ - 100^\circ = 80^\circ$$

$$\Rightarrow m(\widehat{DAE}) = m(\widehat{EAB}) = 80:2 = 40^\circ$$

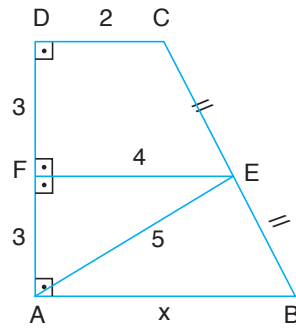
$$\Rightarrow m(\widehat{AEB}) = m(\widehat{ABE}) = (180 - 40):2 = 70^\circ$$

$$\Rightarrow m(\widehat{CBE}) = m(\widehat{ABC}) - m(\widehat{ABE})$$

$$x = 100^\circ - 70^\circ = 30^\circ$$

Cevap: B

80.



$$|FE| \parallel |DC| \Rightarrow |EF| \perp |AD|$$

$$|EC| = |EB| \Rightarrow |FD| = |AF| = 3$$

$$|AF|^2 + |EF|^2 = |AE|^2$$

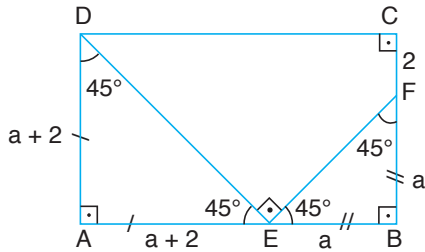
$$3^2 + |EF|^2 = 5^2 \Rightarrow |EF|^2 = 16 \Rightarrow |EF| = 4$$

$$|EF| = \frac{|DC| + |AB|}{2} \Rightarrow 4 = \frac{2+x}{2} \Rightarrow x+2=8$$

$$\Rightarrow x = 6$$

Cevap: C

79.



$$AB \parallel CD \Rightarrow AB \perp CD \Rightarrow m(\widehat{B}) = 90^\circ$$

$$m(\widehat{FEB}) = 90^\circ + 45^\circ = 180^\circ$$

$$\Rightarrow m(\widehat{FEB}) = 45^\circ$$

$$\Rightarrow m(\widehat{AED}) = 45^\circ \Rightarrow m(\widehat{ADE}) = 45^\circ$$

$$\Rightarrow |AD| = |AC|, |EB| = |BF| = a, |AD| = |BC| = a+2$$

$$\Rightarrow |AB| + |BC| = 3a + 4 = 19 \Rightarrow 3a = 15 \Rightarrow a = 5$$

$$\Rightarrow |AD| = 7 = |AE| \Rightarrow |DE| = |AD| \cdot \sqrt{2} = 7\sqrt{2}$$

Cevap: E