

ÇÖZÜMLERİ

1.

I		II
● ○ ▲ △	}	_____
○ △ ▲ ■		2716 3624 4217
□ ■ ○ ●		4371 6173
■ ▲ △ □		
● □ △ ▲		

 ⇒

Şekillerde solda ● (siyah daire)den 2 adet bulunmakta rakam eşiti 4 olmakta
O halde
□ ■ ○ ● → 3624
□ = 3, ■ = 6, ○ = 2, ● = 4 olur.
○ △ ▲ ■ → 2716 △ = 7, ▲ = 1
● □ △ ▲ → 4371 bulunur.

Cevap: D

3.

I		II
DEMİR	}	_____
MİDYE		47518 52318 54732
İDMAN		71962 72549
DARBE		
MEYAN		

 ⇒

Harflerde sağda bir tane R var. Buradan R = 9 olur.
DEMİR = 72549
D = 7, E = 2, M = 5, İ = 4, Y = 3, A = 1, N = 8, B = 6
MİDYE → 54732
İDMAN → 47518
DARBE → 71962
MEYAN → 52318

Cevap: A

2.

I		II
□ ◇ * ●	}	_____
* △ ● ○		6437 1345 4657
◇ △ ○ □		3671 5173
● □ ○ ◇		
△ * ◇ ○		

 ⇒

Şekillerde sağda ○ (boş daire) 2 adet bulunmakta rakam eşit 7 olmakta
Şekillerden ◇ 3 olmakta
◇ △ ○ □ = 3671 bulunur.

Cevap: B

4.

I		II
AYAR	}	_____
ALAR		1314 1516 1614
EYER		2326 2526
ELEK		
EREK		

 ⇒

Harflerde solda 3 adet E var E = 1
2 adet A var A = 2 olur.
Sağda 3 adet R var R = 6
2 adet K var K = 4
EREK → 1614
O halde ELEK → 1314 bulunur.

Cevap: A

5. I. $a * b = \frac{b}{a-b}$

II. $a \ominus b = (a-b)^a$

III. $(6 * 2) \ominus \frac{1}{4} = ?$

$$6 * 2 = \frac{2}{6-2} = \frac{2}{4} = \frac{1}{2}$$

$$\frac{1}{2} \ominus \frac{1}{4} = \left(\frac{1}{2} - \frac{1}{4}\right)^{\frac{1}{2}} = \left(\frac{1}{4}\right)^{\frac{1}{2}} = \sqrt{\frac{1}{4}}$$

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

Cevap: A

6. I. $a \odot b = a^b$

II. $a \otimes b = a + b + (a.b)$

III. $8 \odot \left(1 \otimes \frac{1}{2}\right) = ?$

$$1 \otimes \frac{1}{2} = 1 + \frac{1}{2} + 1 \cdot \frac{1}{2} = 1 + \frac{1}{2} + \frac{1}{2} = 1 + 1 = 2$$

$$8 \odot 2 = 8^2 = 64 \text{ bulunur.}$$

Cevap: C

7. I. $a \square b = (a-1)(b-1)$

II. $a \triangle b = (a+1)(b+1)$

III. $(8 \square 8) \triangle 99 = ?$

$$8 \square 8 = (8-1)(8-1) = 7.7 = 49$$

$$49 \triangle 99 = (49+1).(99+1) = 50.100 = 5000 \text{ bulunur.}$$

Cevap: C

8.

x	a	b	c
a	6b		
b		10c	15
c			

Tablodan

$$\begin{cases} a.a = 6b \Rightarrow a^2 = 6b \\ b.b = 10c \Rightarrow b^2 = 10c \\ b.c = 15 \end{cases}$$

$$a^2.b^2 = 60.b.c = 900 = (30)^2$$

$$(a.b)^2 = (30)^2 \Rightarrow a.b = 30 \text{ bulunur.}$$

Cevap: C

TASARI EĞİTİM YAYINLARI

9.

x	a	b	c
a			48
b			
c		80	

+	a	b	c
a			
b	8		
c			

(x) tablosundan

$$a.c = 48$$

$$+ \quad c.b = 80$$

$$\underline{\hspace{1cm}} \\ c(a+b) = 128 \\ \quad \quad \quad 8$$

$$c = 16 \text{ bulunur.}$$

(+) tablosundan

$$a + b = 8$$

Cevap: D

10.

I	0	1	0
II	0	2	1
III	2	0	1
IV	1	0	1

I =

II = ?

III = ?


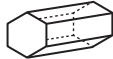
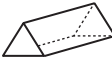
IV = ?

1. şekilden III \rightarrow ve IV \rightarrow olduğu anlaşılır.

2. şekilden II \rightarrow olduğu anlaşılır.

Cevap: A

11.

				
I	1	0	0	I = □
II	0	6	3	II = ?
III	8	0	2	III = ?
IV	0	2	0	IV = ?

1. şekilden 8 tane \triangle ve 1 tane \square olduğu anlaşılır.

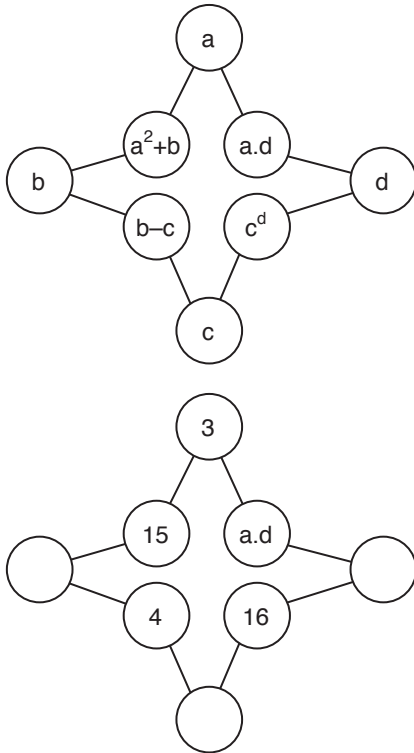
I \rightarrow □ ve III \rightarrow \triangle

2. şekilde 6 tane \square ve 2 tane \hexagon olduğu anlaşılır.

II \rightarrow □ ve IV \rightarrow \hexagon bulunur.

Cevap: E

12.



Şekilden;

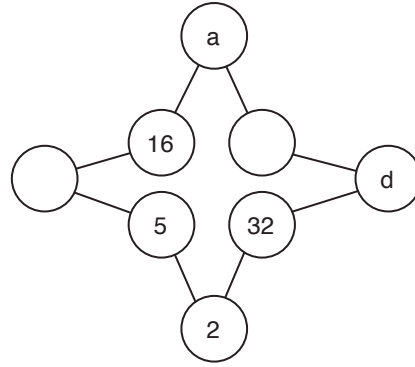
$$a^2 + b = 15, \quad a = 3, \quad b - c = 4 \quad \text{ve} \quad c^d = 16$$

$$\begin{aligned} \downarrow & & & \downarrow & & \downarrow \\ 3^2 + b = 15 & & b - c = 4 & & c^d = 2^4 \\ b = 15 - 9 & & 2 = c & & d = 4 \\ b = 6 & & & & \end{aligned}$$

O halde $a.d = 3.4 = 12$ bulunur.

Cevap: C

13.



$$a^2 + b = 16, \quad b - c = 5, \quad c^d = 32, \quad c = 2$$

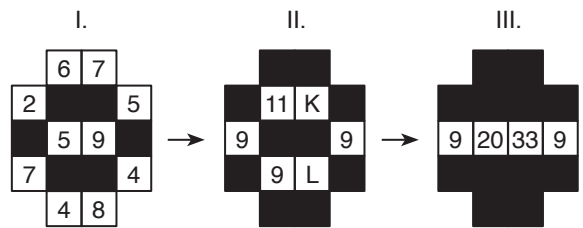
$$\begin{aligned} \downarrow & & \downarrow & & \\ a^2 + 7 = 16 & & b - 2 = 5 & & 2^d = 2^5 \\ a^2 = 9 & & b = 7 & & d = 5 \\ a = 3 & & & & \end{aligned}$$

O halde $a + d = 3 + 5 = 8$ bulunur.

Cevap: B

TASARI EĞİTİM YAYINLARI

14.



$$\begin{aligned} 6 + 11 = 17 & & 17 + 13 = 30 \\ 9 + 4 = 13 & & \end{aligned}$$

bu toplamın yarısı ile 5 ile toplanıyor $5 + 15 = 20$


buradan $K = 16$ ve $L = 17$ olmalı


$$\begin{aligned} 7 + 16 = 23 & & 23 + 25 = 48 \\ 8 + 17 = 25 & & \end{aligned}$$


$24 + 9 = 33$ olur.

Cevap: E

15.

I.  $\rightarrow 4 - \frac{8}{4} = 2$

II.  $\rightarrow 7 - \frac{8}{1} = -1$

III.  $\rightarrow ?$

Şekillerden

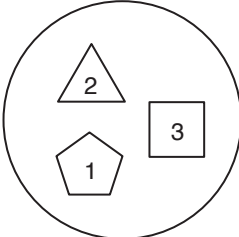
I. (boş üçgen sayısı) - $\frac{\text{Toplam üçgen sayısı}}{\text{Taralı üçgen sayısı}}$

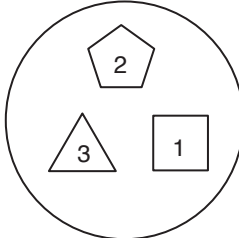
O halde

III $\rightarrow 6 - \frac{8}{2} = 6 - 4 = 2$ bulunur.

Cevap: A

16.

I.  $\rightarrow 2^3 + 3^4 + 1^5 = 90$

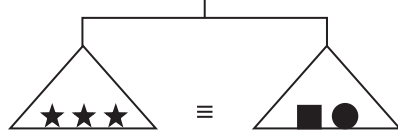
II.  $\rightarrow ?$

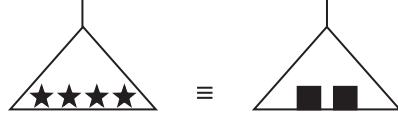
Şeklin içindeki sayıya kenar sayısı kuvvet olmakta

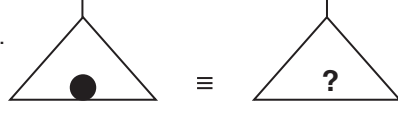
II $\rightarrow 2^5 + 3^3 + 1^4 = 32 + 27 + 1 = 60$

Cevap: C

17.

I.  \equiv

II.  \equiv

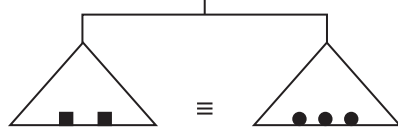
III.  \equiv

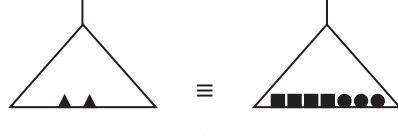
★ $\rightarrow x$, ■ $\rightarrow y$, ● $\rightarrow z$

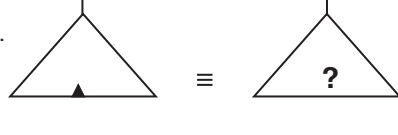
I.	II.	III.
$3x = y + z$	$4x = 2y$	$z = ?$
	$2x = y$	
$3x = 2x + z$		
$x = z$		

Cevap: A

18.

I.  \equiv

II.  \equiv

III.  \equiv

■ $\rightarrow a$, ● $\rightarrow b$, ▲ $\rightarrow c$ olsun.

I.	II.
$2a = 3b$	$2c = 4a + 3b$
$2c = 4a + 2a$	
$2c = 6a$	
$c = 3a$	

▲ \rightarrow ■■

Cevap: E

19.
$$\begin{array}{r} KL \\ + MN \\ \hline 1PR \end{array}$$

$$\begin{array}{r} L \\ - R \\ \hline L \end{array}$$

$$\begin{array}{r} K \\ - P \\ \hline 1 \end{array}$$

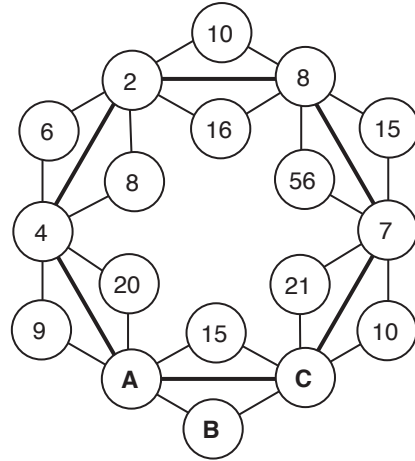
$L - R = L$
 $R = 0$ olur.
 $K - P = 1$
 $K = P + 1$

Seçeneklerden MN = 89 olur.

$$\begin{array}{r} KL \\ + 89 \\ \hline 1P0 \end{array} \rightarrow \begin{array}{r} 21 \\ + 89 \\ \hline 110 \end{array}$$

Cevap: C

21.



dış toplam, iç çarpım şeklinde

$$7 + C = 10$$

$$A \cdot 3 = 15$$

$$A + C = B$$

$$C = 3$$

$$A = 5$$

$$5 + 3 = 8$$

$$A + B + C = 5 + 8 + 3 = 16$$

Cevap: E

TASARI EĞİTİM YAYINLARI

20.
$$\begin{array}{r} KLMN \\ LMN \\ MN \\ + N \\ \hline 4584 \end{array}$$

$$\begin{array}{r} M \\ + N \\ \hline L \end{array}$$

N = 1, M = 6, L = 7, K = 3

O halde L = 7 bulunur.

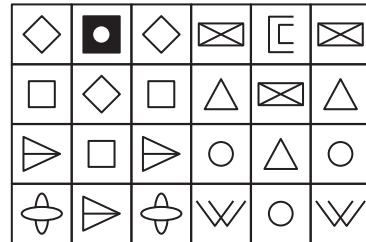
$$\begin{array}{r} 3761 \\ 761 \\ 61 \\ + 1 \\ \hline 4584 \end{array}$$

$$\begin{array}{r} 6 \\ + 1 \\ \hline 7 \end{array}$$

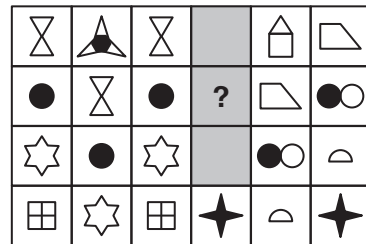
Cevap: D

22.

I.



II.



1. sütun = 3. sütun

4. sütun = 6. sütun

O halde buradan

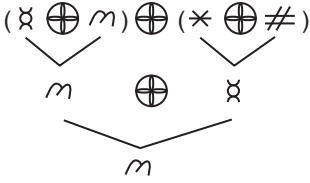


olmalı.

Cevap: D

23.

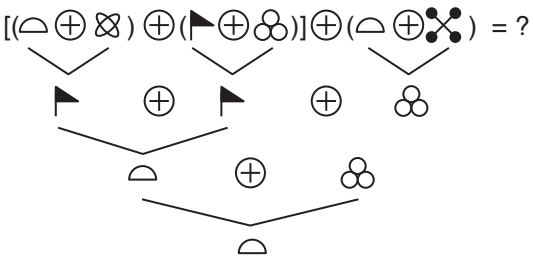
⊕	*	~	Ꝥ	ƞ	#
*	ƞ	#	*	~	Ꝥ
~	#	*	~	Ꝥ	ƞ
Ꝥ	*	~	Ꝥ	ƞ	#
ƞ	~	Ꝥ	ƞ	#	*
#	Ꝥ	ƞ	#	*	~



Cevap: C

24.

⊕	⊗	∩	⊗	⊗	▴
⊗	⊗	▴	⊗	∩	⊗
∩	▴	⊗	∩	⊗	⊗
⊗	⊗	∩	⊗	⊗	▴
⊗	∩	⊗	⊗	▴	⊗
▴	⊗	⊗	▴	⊗	∩



Cevap: B

25.

⊗	○●▲	△□■	□△●	○▲■
○	●▲	△□■	K	▲■
△	○●▲	L	□●	○▲■
□	○●▲	M	△●	○▲■

⊗ tablosunda kesişen şekil alınmıyor.

O halde

K = □△●, L = □■, M = △■

Cevap: C

TASARI EĞİTİM YAYINLARI

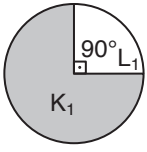
26.

⊗	☆☾↓	☆☉↓	☾☉↓
☆	☾↓	L	☾☉↓
☾	☆↓	☆☉↓	M
☉	☆☾↓	☆↓	☾↓
↓	K	☆☉	☾☉

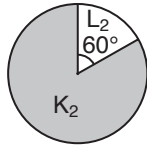
L = ☉↓, M = ☉↓, K = ☆☾

Cevap: A

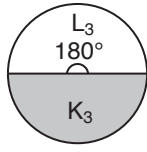
27.



$$M_1 = \frac{K_1}{L_1}$$



$$M_2 = \frac{K_2}{L_2}$$



$$M_3 = \frac{K_3}{L_3}$$

I. daire

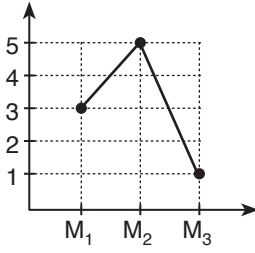
$$M_1 = \frac{K_1}{L_1} = \frac{270}{90} = 3$$

II. daire

$$M_2 = \frac{K_2}{L_2} = \frac{300}{60} = 5$$

III. daire

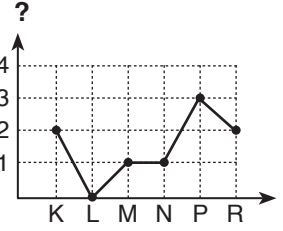
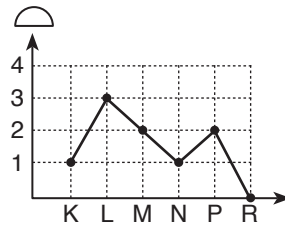
$$M_3 = \frac{K_3}{L_3} = \frac{180}{180} = 1$$



Cevap: E

28.

K	L	M	N	P	R
■	◐	▼	☆	◐	☆
☆	■	◐	◐	☆	⊕
▼	◐	⊕	■	◐	◐
◐	◐	☆	◐	☆	■
☆	◐	▼	◐	☆	⊕
▼	◐	◐	◐	■	☆



Grafikler kaç tane olduğunu gösteriyor.

K = 2 tane

L = 0

M = 1

N = 1

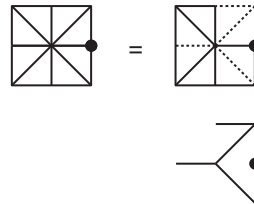
P = 3

R = 2

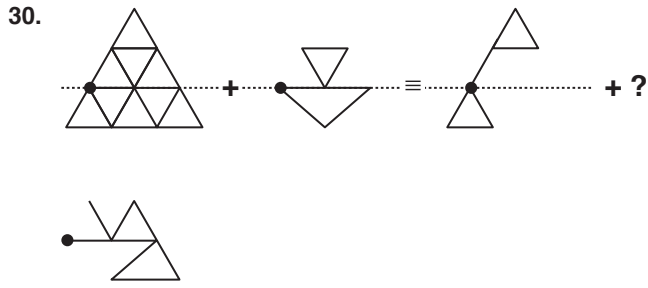
☆

Cevap: C

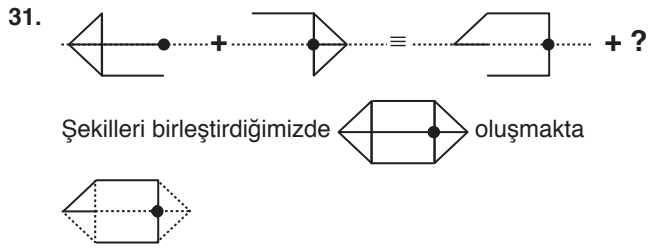
29. İki şeklin birleşimi



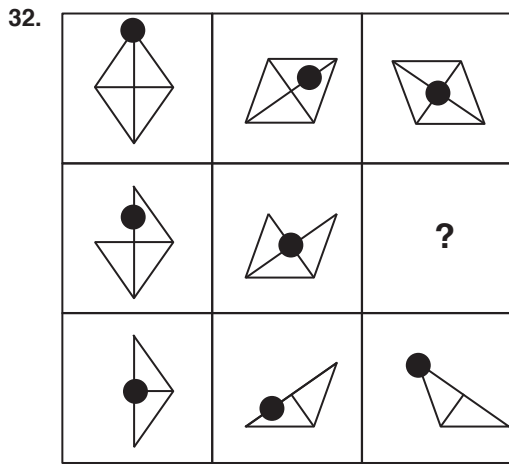
Cevap: B



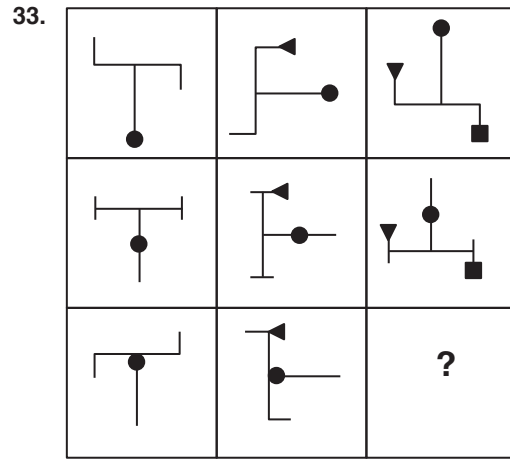
Cevap: A



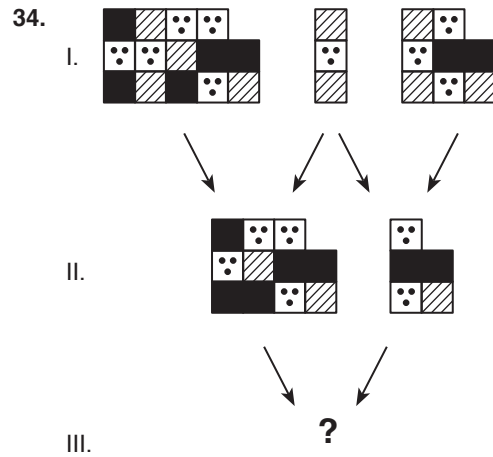
Cevap: B



Cevap: C



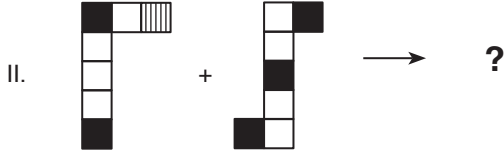
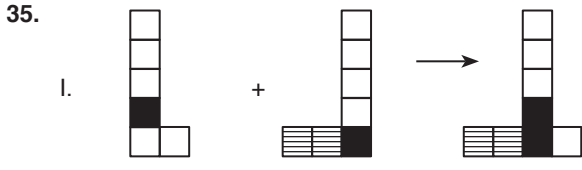
Cevap: B



Orta şekildeki görüntü sağ ve soldan silinmekte II. aşamada ise sol ve sağdaki aynı görüntü silinmekte ortaya

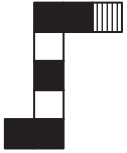


Cevap: A

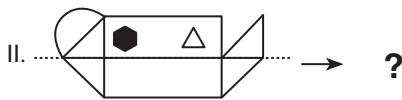
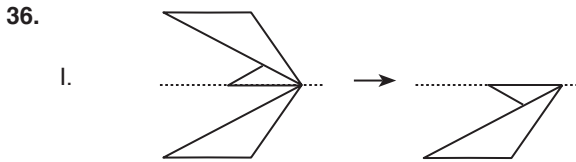


İki şekil birleştirilmekte.

Sağ şekil + sol şekil şeklinde



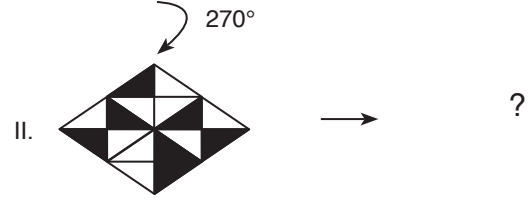
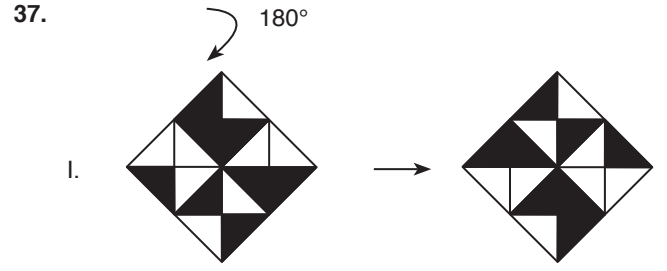
Cevap: D



Üstteki şekil alttaki şeklin üzerine simetri şekilde yerleş-
tirmekte.



Cevap: E

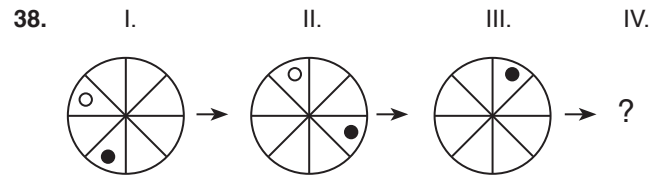


Şekil 270° döndürüldüğünde



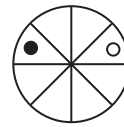
oluşur.

Cevap: D

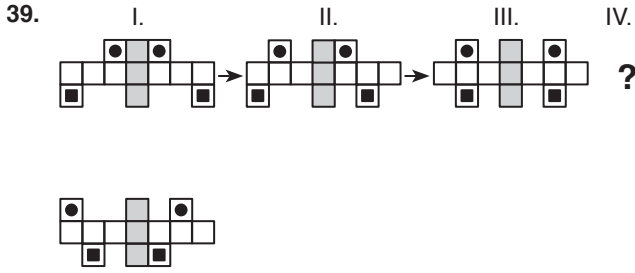


○ → saat yönünde 1 adım ilerlemekte

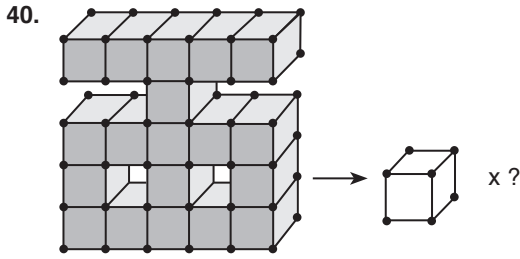
● → saat yönünün tersinde 2 adım ilerlemekte



Cevap: E



Cevap: B



Şekildeki küp sayısı 19 adet olur.

Cevap: C

41. $\frac{2,4}{0,08} + \frac{0,21}{0,07} + \frac{5}{0,5}$

$$= \frac{240}{8} + \frac{21}{7} + \frac{50}{5}$$

$$= 30 + 3 + 10$$

$$= 43 \text{ bulunur.}$$

Cevap: D

42. $\frac{a^{m+2} \cdot a^{n-1}}{a^{m+n}} = \frac{a^m \cdot a^2 \cdot a^n \cdot a^{-1}}{a^{m+n}}$

$$= \frac{a^{m+n} \cdot a}{a^{m+n}} = a \text{ bulunur.}$$

Cevap: A

43. $\frac{\left(\frac{1}{3}-2\right) + \left(\frac{1}{2}-3\right)}{\left(2-\frac{3}{4}\right) \cdot \left(\frac{3}{2}-4\right)} = \frac{\left(\frac{-5}{3}\right) + \left(\frac{-5}{2}\right)}{\left(\frac{5}{4}\right) \cdot \left(\frac{-5}{2}\right)}$

$$= \frac{-10-15}{-25} = \frac{-25}{-25} = 1 \text{ bulunur.}$$

Cevap: D

44. $2^x = a$

$$2^{2(x+2)} = 2^{2x} \cdot 2^2 = 2^{4a}$$

Cevap: E

45. $\frac{(\sqrt{8}-\sqrt{2}) \cdot (\sqrt{18}+\sqrt{2})}{(3\sqrt{2}-\sqrt{8}) + (\sqrt{8}-\sqrt{2})}$

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

$$= \frac{\sqrt{2} \cdot 4\sqrt{2}}{\sqrt{2} + \sqrt{2}} = \frac{8}{2\sqrt{2}} = \frac{4}{\sqrt{2}}$$

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

Cevap: D

46. $\sqrt[3]{\frac{54}{1,6 \cdot 10^{-2}}} = \sqrt[3]{\frac{54}{16 \cdot 10^{-3}}}$

$$= \sqrt[3]{\frac{27 \cdot 10^3}{8}}$$

$$= \sqrt[3]{\frac{3^3 \cdot 10^3}{2^3}}$$

$$= \frac{3 \cdot 10}{2} = \frac{30}{2} = 15 \text{ bulunur.}$$

Cevap: E

$$47. \frac{n!(n+1)!}{(n-1)!(n+2)!}$$

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

$$= \frac{n}{n+2} \text{ bulunur.}$$

Cevap: D

$$48. \frac{(3n)!(n-3)!}{(3n-1)!(n-2)!}$$

$$= \frac{(3n-1)! \cdot 3n \cdot (n-3)!}{(3n-1)! \cdot (n-3)! \cdot (n-2)} = \frac{3n}{n-2}$$

Cevap: B

$$49. \begin{array}{l} k + 2l + m = 6 \\ 2/ \quad 2k - l + 2m = 7 \\ \hline k + 2l + m = 6 \\ + \quad 4k - 2l + 4m = 14 \\ \hline 5k + 5m = 20 \\ 5(k + m) = 20 \Rightarrow k + m = 4 \end{array}$$

I. denklemde yerine yazdığımızda

$$4 + 2l = 6 \Rightarrow 2l = 2$$

$$l = 1$$

O halde $k + l + m = 4 + 1 = 5$ bulunur.

Cevap: E

$$50. \begin{array}{l} 2x + y = z \\ x + z = 3y \\ 2x + y + x = 3y \\ 3x = 2y \Rightarrow x = 2k \text{ ve } y = 3k \\ 2 \cdot 2k + 3k = z \Rightarrow z = 7k \\ x + y + z = 12 \\ 2k + 3k + 7k = 12 \\ 12k = 12 \Rightarrow k = 1 \\ z = 7k \Rightarrow z = 7 \text{ bulunur.} \end{array}$$

Cevap: E

$$51. \frac{a+1}{a} = x \Rightarrow 1 + \frac{1}{a} = x \Rightarrow \frac{1}{a} = x - 1$$

$$\frac{b-1}{b} = y \Rightarrow 1 - \frac{1}{b} = y \Rightarrow \frac{1}{b} = 1 - y$$

$$\frac{1}{a} + \frac{1}{b} = x - 1 + 1 - y = x - y$$

Cevap: C

$$52. \frac{1-2x^3}{x^m} + \frac{2-3x}{x^{m-3}} + \frac{3}{x^{m-4}}$$

$$= \frac{1-2x^3 + (2-3x)x^3 + 3 \cdot x^4}{x^m}$$

$$= \frac{1-2x^3 + 2x^3 - 3x^4 + 3x^4}{x^m}$$

$$= \frac{1}{x^m} \text{ bulunur.}$$

Cevap: A

$$53. \frac{x-y}{x+y} \cdot \frac{4x+2y}{2x^2-xy-y^2}$$

$$= \frac{x-y}{x+y} \cdot \frac{2(2x+y)}{(2x+y)(x-y)}$$

$$= \frac{2}{x+y}$$

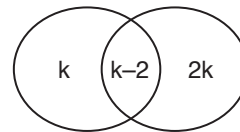
Cevap: C

$$54. n(A \cap B) = k - 2$$

$$n[A - (A \cap B)] = k$$

$$n[B - (A \cap B)] = 2k$$

$$n(A \cup B) = 54$$



$$n(A) = 2k - 2$$

$$= 28 - 2 = 26 \text{ bulunur.}$$

$$k + k - 2 + 2k = 54$$

$$4k - 2 = 54$$

$$4k = 56$$

$$k = 14$$

Cevap: B

55. $A = \{x \mid 0 < x \leq 10; x \in \mathbb{Z}^+\}$
 $B = \{y \mid y = 2k; 0 < k \leq 10; x \in \mathbb{Z}^+\}$
 $A = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$
 $B = \{2, 4, 6, 8, 10\}$
 $(A \cap B) = \{2, 4, 6, 8, 10\}$
 $n(A \cap B) = 5$ bulunur.

Cevap: B

56. $A = \{x \mid x \in \mathbb{Z}, 1 \leq x \leq 50\}$
 $B = \{y \mid y \in \mathbb{Z}, 1 \leq y^2 \leq 50\}$
 $A = \{1, 2, 3, \dots, 50\}$
 $B = \{1, 4, 9, 16, 25, 36, 49\}$
 $n(A) = 50 \quad n(B) = 7$
 $n(A - B) = 50 - 7 = 43$

Cevap: C

57. $\begin{cases} a \cdot b = 3 \\ b \cdot c = \frac{2}{3} \\ a \cdot c = \frac{4}{3} \end{cases} \Rightarrow \begin{cases} \frac{a \cdot b}{b \cdot c} = \frac{3}{\frac{2}{3}} \\ \frac{a}{c} = \frac{9}{2} \end{cases}$
 $\frac{b \cdot c}{a \cdot c} = \frac{\frac{2}{3}}{\frac{4}{3}} \Rightarrow \frac{b}{a} = \frac{1}{2}$
 $\frac{a}{c} = \frac{9 \cdot 2k}{2 \cdot 2k} \quad \frac{b}{a} = \frac{1 \cdot 9k}{2 \cdot 9k} \quad (k \in \mathbb{Z}^+)$
 $\frac{a}{c} = \frac{18k}{4k} \quad \frac{b}{a} = \frac{9k}{18k}$
 $a = 18k, \quad b = 9k, \quad c = 4k$
 $a > b > c$ bulunur.

Cevap: A

58. $a + b = 2$
 $b + c = \frac{5}{4}$
 $a + c = \frac{9}{4}$

 $2(a + b + c) = 2 + \frac{5}{4} + \frac{9}{4}$
 $\bullet \quad a + b + c = \frac{22}{8}$ bulunur.
 $2 + c = \frac{22}{8} \Rightarrow c = \frac{22}{8} - 2$
 $c = \frac{6}{8} = \frac{3}{4}$
 $\bullet \quad a + \frac{5}{4} = \frac{22}{8}$
 $a = \frac{22}{8} - \frac{5}{4} = \frac{12}{8} = \frac{3}{2}$
 $\frac{c}{a} = \frac{\frac{3}{4}}{\frac{3}{2}} = \frac{1}{2}$ bulunur.

Cevap: E

59. $\frac{1}{3^x + 1} + \frac{8}{9^x - 1} = \frac{1}{5}$
 $\frac{3^x - 1 + 8}{9^x - 1} = \frac{1}{5}$
 $5 \cdot 3^x + 35 = 9^x - 1 \quad (3^x = a \text{ olsun})$
 $5a + 35 = a^2 - 1$
 $a^2 - 5a - 36 = 0$
 $(a + 4)(a - 9) = 0$
 $a = -4$ ve $a = 9$ olur.
 $3^x = 9 \Rightarrow 3^x = 3^2$
 $x = 2$ bulunur.

Cevap: C

60. • $\frac{a+b}{2} = 1 \Rightarrow a+b=2 \Rightarrow \boxed{b=2-a}$
 • $a-c=-2 \Rightarrow a-c=-2 \Rightarrow \boxed{c=a+2}$
 • $(\sqrt{b \cdot c} = 2)^2 \Rightarrow b \cdot c = 4$
 $(2-a)(2+a) = 4$
 $4 - a^2 = 4$
 $a^2 = 0$
 $a = 0$

Cevap: B

61. $3^a \cdot 4^{-b} = 4$
 x $3^{-b} \cdot 4^a = 36$

 $3^{a-b} \cdot 4^{a-b} = 144$
 $(3 \cdot 4)^{a-b} = 12^2$
 $12^{a-b} = 12^2 \Rightarrow a-b=2$

Cevap: D

62. $\frac{x^3}{x^2} + \frac{2}{x^2} = \frac{3x^2}{x^2}$
 $3 \mid x + \frac{2}{x^2} = 3$
 $3x + \frac{6}{x^2} = 9$

Cevap: B

63. $x^2 + y^2 - 2xy - 4 = 0$
 \downarrow
 $(x-y)^2 - 2^2 = 0$
 $(x-y-2)(x-y+2) = 0$
 $x-y=2 \quad x-y=-2$
 $\Rightarrow |x-y| = 2$ olur.

Cevap: D

64. $\frac{\sqrt{-x+2\sqrt{x-1}}}{0} + \frac{\sqrt{y-\sqrt{2y-1}}}{0} = 0$
 $\Rightarrow -x+2\sqrt{x-1} = 0 \Rightarrow (2\sqrt{x-1} = x)^2$
 $4(x-1) = x^2$
 $4x-4 = x^2$
 $x^2-4x+4 = 0$
 $(x-2)^2 = 0$
 $x = 2$
 $\Rightarrow y - \sqrt{2y-1} = 0 \Rightarrow (y = \sqrt{2y-1})^2$
 $y^2 = 2y - 1$
 $y^2 - 2y + 1 = 0$
 $(y-1)^2 = 0 \Rightarrow y = 1$
 $\Rightarrow x+y = 2+1 = 3$

Cevap: B

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65. $5 + 10 + 15 + \dots + 40 - 4 - 8 - 12 - \dots - 32$
 $= 5(1 + 2 + 3 + \dots + 8) - 4(1 + 2 + 3 + \dots + 8)$
 $= (1 + 2 + 3 + \dots + 8)(5 - 4)$
 $= 1 + 2 + 3 + \dots + 8$
 $= \frac{8 \cdot 9}{2} = 36$

Cevap: C

66. $(35)_{10} = (x)_8$

$$\begin{array}{r|l} 35 & 8 \\ - 32 & \textcircled{4} \\ \hline & \textcircled{3} \end{array} \Rightarrow = 43$$

Cevap: D

67. $f(x) = x + 1$ ve $g(x) = x^2 - 1$
 • $(g \circ f)(a) = g(f(a)) = g(a + 1) = (a + 1)^2 - 1 = 35$
 $(a + 1)^2 = 36$
 $a + 1 = 6 \quad a + 1 = -6$
 $a = 5 \quad a = -7$

Cevap: D

$$68. f^{-1}(0) = a \Rightarrow f(a) = 0$$

$$\Rightarrow f(a) = \frac{(a-3)^3}{4} = 0$$

$$(a-3)^3 = 0$$

$$a-3 = 0$$

$$a = 3 \text{ olur.}$$

Cevap: C

$$69. f(x) = ax + b$$

$$f(1) = a + b = -2$$

$$f(2) = 2a + b = 1$$

$$\begin{array}{r} -/ \quad a + b = -2 \\ + \quad 2a + b = 1 \\ \hline \quad \quad \quad a = 3 \end{array} \quad \rightarrow \quad \begin{array}{r} 6 + b = 1 \\ \quad \quad \quad b = -5 \end{array}$$

$$\Rightarrow f(x) = 3x - 5$$

$$f(3) = 3 \cdot 3 - 5 = 4 \text{ olur.}$$

Cevap: D

$$70. 2x^2 - (m-1)x - (4-m) = 0$$

$$\bullet \quad x_1 = \frac{1}{x_2} \Rightarrow x_1 \cdot x_2 = 1$$

$$\bullet \quad x_1 \cdot x_2 = 1$$

$$\frac{-(4-m)}{2} = 1 \Rightarrow -4 + m = 2$$

$$m = 6$$

Cevap: E

$$71. a(x+1)^2 - x + 1 = 8$$

$$a(x^2 + 2x + 1) - x + 1 - 8 = 0$$

$$ax^2 + 2ax + a - x - 7 = 0$$

$$ax^2 + (2a-1)x + a - 7 = 0$$

$$x_1 \cdot x_2 = \frac{a-7}{a} \cdot \frac{-2}{5}$$

$$5a - 35 = -2a$$

$$7a = 35$$

$$a = 5$$

Cevap: D

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$$72. p(x) = 3x^3 - 2mx^2 - nx - 2 = (x^2 - x - 2) \cdot Q(x)$$

$$p(x) = 3x^3 - 2mx^2 - nx - 2 = (x-2)(x+1) \cdot Q(x)$$

$$\Rightarrow p(2) = 0 \quad \text{ve} \quad p(-1) = 0 \text{ dir.}$$

$$\bullet \quad p(2) = 3 \cdot 2^3 - 2m \cdot 2^2 - n \cdot 2 - 2 = 0$$

$$24 - 8m - 2n - 2 = 0$$

$$8m + 2n = 22 \Rightarrow \boxed{4m + n = 11}$$

$$\bullet \quad p(-1) = 3(-1)^3 - 2m(-1)^2 - n \cdot (-1) - 2 = 0$$

$$-3 - 2m + n - 2 = 0$$

$$\boxed{n - 2m = 5}$$

$$\Rightarrow \quad -/ \quad 4m + n = 11$$

$$+ \quad n - 2m = 5 \quad \rightarrow \quad 4 + n = 11$$

$$\hline \quad \quad \quad 6m = 6$$

$$m = 1$$

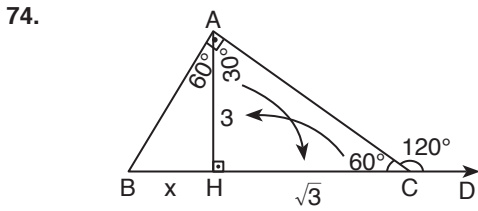
$$n = 7$$

$$\Rightarrow 8m - n = 8 - 7 = 1 \text{ olur.}$$

Cevap: D

73. • $P(x) = x^2 + 5x - 3$
 $P(2) = 2^2 + 5 \cdot 2 - 3 = 11$
 $P(0) = 0^2 + 5 \cdot 0 - 3 = -3$
- $Q(x) = x + 1$
 $Q(11) = 11 + 1 = 12$
 $Q(-1) = -1 + 1 = 0$
- $\Rightarrow P[Q(-1)] + Q[P(2)]$
 $P(0) + Q(11)$
 $-3 + 12 = 9$

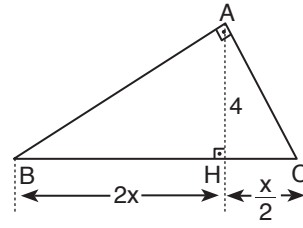
Cevap: C



- $m(\widehat{ACB}) = 60^\circ \Rightarrow |AH| = 3$
 $m(\widehat{HAC}) = 30^\circ \Rightarrow |HC| = \frac{|AH|}{\sqrt{3}} = \frac{3}{\sqrt{3}} = \sqrt{3} \text{ cm}$
- $3^2 = x \cdot \sqrt{3}$
 $9 = x \cdot \sqrt{3} \Rightarrow x = 3\sqrt{3} \text{ cm}$
- $A(ABC) = \frac{(x + \sqrt{3}) \cdot 3}{2} = \frac{(3\sqrt{3} + \sqrt{3}) \cdot 3}{2}$
 $= \frac{12\sqrt{3}}{2} = 6\sqrt{3}$

Cevap: A

75.



$$\Rightarrow 4^2 = 2x \cdot \frac{x}{2}$$

$$16 = x^2$$

$$x = 4$$

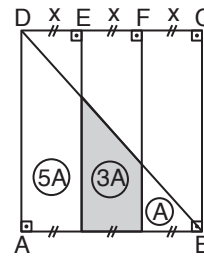
$$\Rightarrow |BC| = 2x + \frac{x}{2} = 2 \cdot 4 + \frac{4}{2} = 8 + 2 = 10$$

$$\text{Alan}(ABC) = \frac{|BC| \cdot 4}{2} = \frac{10 \cdot 4}{2} = 20 \text{ cm}^2$$

Cevap: D

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76.



$$\text{Alan}(DAB) = \frac{A(ABCD)}{2}$$

$$9A = \frac{A(ABCD)}{2} \rightarrow A(ABCD) = 18A = (3x)^2$$

$$18A = 9x^2$$

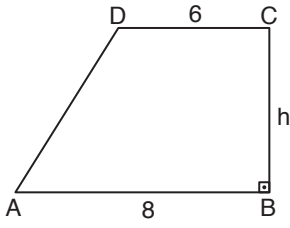
$$\frac{x^2}{2} = A$$

$$\Rightarrow 3A = 3 \cdot \frac{x^2}{2} = \frac{3x^2}{2}$$

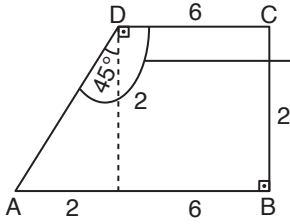
$$k = \frac{3}{2}$$

Cevap: B

77.



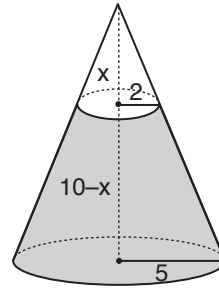
$$14 = \frac{6+8}{2} \cdot h \Rightarrow h = 2$$



$$m(\widehat{CDA}) = 45^\circ + 90^\circ = 135^\circ$$

Cevap: D

79.



$$\begin{aligned} \rightarrow \frac{x}{10} &= \frac{2}{5} \\ 5x &= 20 \\ x &= 4 \end{aligned}$$

$$V = \frac{1}{3} \pi \cdot 5^2 \cdot 10 - \frac{1}{3} \pi \cdot 2^2 \cdot 4$$

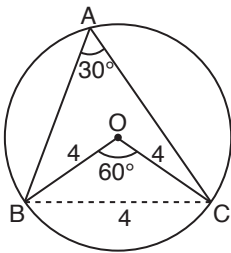
$$V = \frac{1}{3} \pi (250 - 16)$$

$$V = \frac{1}{3} \pi \cdot 234 = 78\pi$$

Cevap: E

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78.



$$m(\widehat{BAC}) = \frac{m(\widehat{BOC})}{2}$$

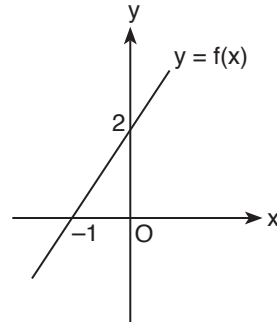
$$\Rightarrow 30^\circ = \frac{m(\widehat{BOC})}{2}$$

$$m(\widehat{BOC}) = 60^\circ$$

$|OB| = |OC|$ ve $m(\widehat{BOC}) = 60^\circ$
 $\Rightarrow |OB| = |OC| = |BC| = 4$ cm olur.

Cevap: C

80.



$$\frac{x}{-1} + \frac{f(x)}{2} = 1$$

$$-2x + f(x) = 2$$

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

Cevap: A