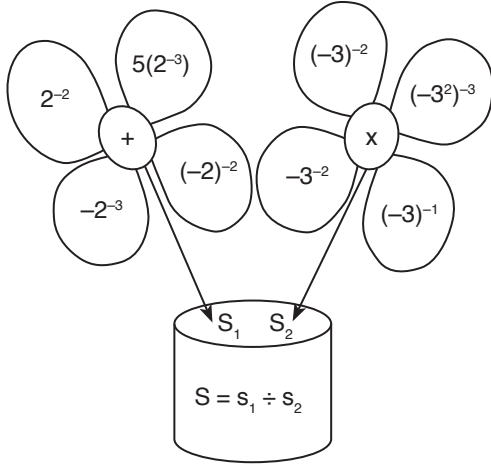


1.



$$S_1 = 2^{-2} + 5 \cdot (2^{-3}) + (-2)^{-2} + (-2)^{-2}$$

$$S_1 = \frac{1}{4} + \frac{5}{8} - \frac{1}{8} + \frac{1}{4}$$

$$S_1 = \frac{2+5-1+2}{8} = \frac{8}{8} = 1$$

$$\begin{aligned} S_2 &= (-3)^{-2} \cdot (-3^2)^{-3} \cdot (-3)^{-2} \cdot (-3)^{-1} \\ &= -3^{-2-6-2-1} \\ &= -3^{-11} \end{aligned}$$

$$S = S_1 \div S_2 = 1 \div (-3^{-11}) = -3^{11}$$

Cevap: E

2.

5	2	3	10
6	4	1	11
1	9	x	12
12	?	6	?

I, II ve III sütunların toplamı IV sütunu vermekte

$$5 + 2 + 3 = 10$$

$$6 + 4 + 1 = 11$$

$$1 + 9 + x = 12 \Rightarrow x = 2$$

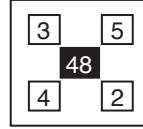
seçeneklerden B seçeneği uymakta diğerleri 15 ve 33 olmakta

Cevap: B

3. Üst kareleri topla

Alt kareleri topla

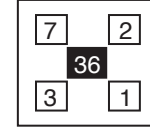
Çıkan sonuçları çarp

Şekil I
Figure I

$$3 + 5 = 8$$

$$x \quad 4 + 2 = 6$$

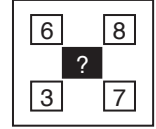
48

Şekil II
Figure II

$$7 + 2 = 9$$

$$x \quad 3 + 1 = 4$$

36

Şekil III
Figure III

$$6 + 8 = 14$$

$$x \quad 3 + 7 = 10$$

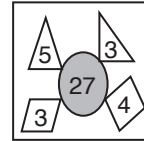
140

Cevap: E

4. Kare içindeki üçgen içlerini çarp

Kare içindeki dörtgen içlerini çarp

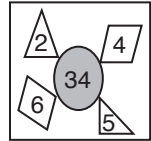
çıkan sonuçları topla

Şekil I
Figure I

$$5 \cdot 3 = 15$$

$$+ \quad 3 \cdot 4 = 12$$

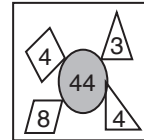
27

Şekil II
Figure II

$$2 \cdot 5 = 10$$

$$+ \quad 6 \cdot 4 = 24$$

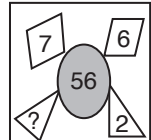
34

Şekil III
Figure III

$$3 \cdot 4 = 12$$

$$+ \quad 4 \cdot 8 = 32$$

44

Şekil IV
Figure IV

$$x \cdot 2 = 2x$$

$$+ \quad 7 \cdot 6 = 42$$

56

$$2x + 42 = 56$$

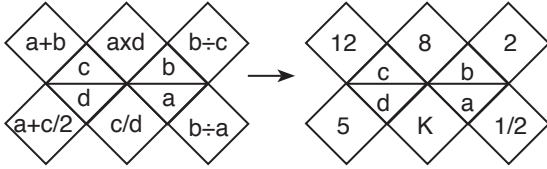
$$2x = 14$$

$$x = 7$$

Cevap: C

5. Aşağıda verilen işlemde her bir sembol tam bir sayıyı göstermektedir.

Every symbol below represents a natural number.



K = ?

$$\begin{aligned} a + b &= 12, & a.d &= 8 & b \div c &= 2 \\ \frac{a+c}{2} &= 5 & \frac{c}{d} &= k & b \div a &= \frac{1}{2} \\ & & & & \frac{b}{a} &= \frac{1}{2} \\ & & & & a &= 2b \end{aligned}$$

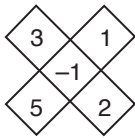
$$\begin{aligned} 2b + b &= 12 \\ 3b &= 12 \\ b &= 4 \Rightarrow a = 8 \\ a.d &= 8 \Rightarrow 8.d = 8 \\ d &= 1 \\ a + c &= 10 \\ 8 + c &= 10 \Rightarrow c = 2 \end{aligned}$$

O halde

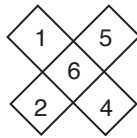
$$K = \frac{c}{d} = \frac{2}{1} = 2$$

Cevap: A

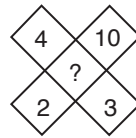
6.



$$\begin{aligned} &\downarrow \\ &= 5.1 - 3.2 \\ &= 5 - 6 \\ &= -1 \end{aligned}$$



$$\begin{aligned} &\downarrow \\ &= 2.5 - 4.1 \\ &= 10 - 4 \\ &= 6 \end{aligned}$$



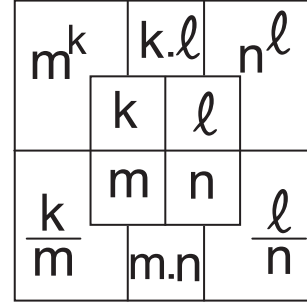
$$\begin{aligned} &\downarrow \\ &= 2.10 - 4.3 \\ &= 20 - 12 \\ &= 8 \end{aligned}$$

Cevap: E

7 - 9. soruları aşağıdaki şekle göre cevaplayınız.

Her soru birbirinden bağımsız olarak cevaplanacaktır.

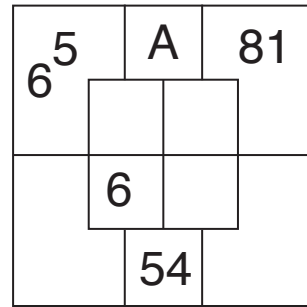
Answer questions 7 - 9 in accordance with the figure given below.



Yukarıdaki şekil k, l, m ve n harfleriyle gösterilen dört pozitif tamsayıyı içeren bazı işlemlere göre düzenlenmiştir. Harflerin gösterdiği sayılar her soruda farklı olabilir ancak bunlarla yapılacak işlemler her soruda aynıdır.

The figure above has been organized according to various operations using four positive integers represented by letters, k, l, m, and n. The integers represented by the letters may change from questions, but the operations to be done remain the same.

7.



$$\begin{aligned} m^k &= 6^5, \\ m &= 6, \\ 6^k &= 6^5 \\ k &= 5 \end{aligned}$$

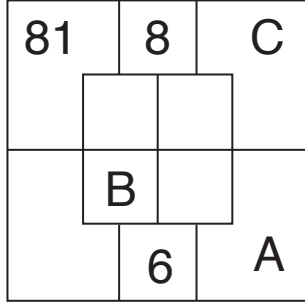
$$\begin{aligned} A &= k.L, \\ m.n &= 54 \\ 6.n &= 54 \\ n &= 9 \end{aligned}$$

$$\begin{aligned} n^L &= 81 \\ &\downarrow \\ 9^2 &= n^L \\ L &= 2 \end{aligned}$$

$$A = K.L = 5.2 = 10$$

Cevap: C

8.



$$m^k = 81 \quad K.L = 8$$

$$m = B \quad m.n = 6$$

$$3^4 = m^k \Rightarrow m = 3, k = 4$$

$$K.L = 8$$

$$4.L = 8$$

$$L = 2$$

$$m.n = 6$$

$$3.n = 6$$

$$n = 2$$

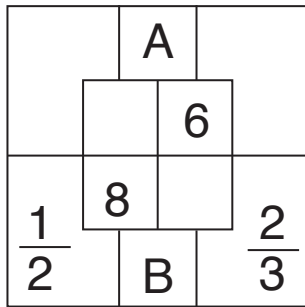
$$n^l = c$$

$$\frac{L}{n} = A$$

$$A = \frac{L}{n} = \frac{2}{2} = 1, \quad B = m = 3, \quad C = n^l = 2^2 = 4$$

$$A + B + C = 1 + 3 + 4 = 8$$

9.



$$K.L = A, \quad L = 6, \quad M = 8,$$

$$\frac{K}{M} = \frac{1}{2}$$

$$B = m.n, \quad \frac{L}{n} = \frac{2}{3}$$

$$\frac{L}{n} = \frac{2}{3} = \frac{6}{9} \quad L = 6, \quad n = 9$$

$$\frac{K}{M} = \frac{1}{2} = \frac{4}{8} \Rightarrow K = 4$$

$$A = K.L = 4.6 = 24$$

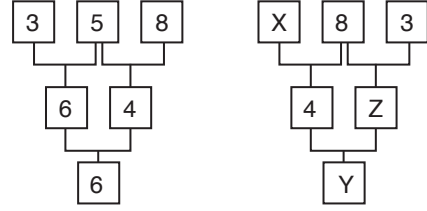
$$B = m.n = 8.9 = 72$$

$$A + B = 24 + 72 = 96$$

Cevap: A

Cevap: B

10.

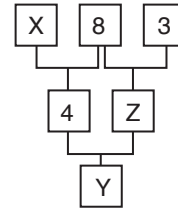


İki kutunun içi çarpılıp çıkan sonucun rakamları toplanıyor.

$$x = 5 \text{ için}$$

$$8.5 = 40$$

$$x = 4 + 0 = 4$$



$$8.3 = 24$$

$$Z = 2 + 4 = 6$$

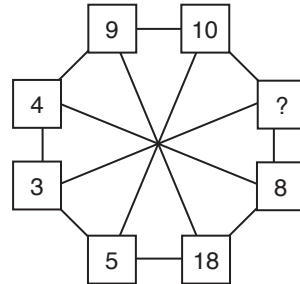
$$Y = 4.6 = 24$$

$$Y = 2 + 4 = 6$$

$$X + Y + Z = 5 + 6 + 6 = 17$$

Cevap: D

11.



Karşı değer 2 katı

$$9 \rightarrow 18$$

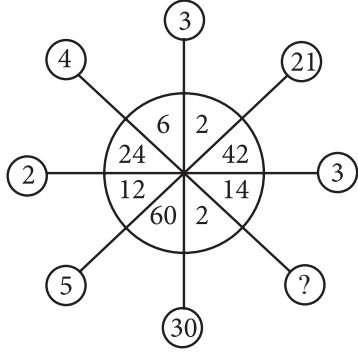
$$4 \rightarrow 8$$

$$3 \rightarrow \textcircled{6}$$

$$5 \rightarrow 10$$

Cevap: A

12.



Çeyrek dilimin içindeki sayıların bölümü

$$\frac{24}{6} = \textcircled{4}, \quad \frac{6}{2} = \textcircled{3}, \quad \frac{42}{2} = \textcircled{21}$$

$$\frac{42}{14} = \textcircled{3}, \quad \frac{24}{12} = \textcircled{2}, \quad \frac{60}{12} = \textcircled{5}$$

$$\frac{60}{2} = \textcircled{30}, \quad \frac{14}{2} = \textcircled{7}$$

Cevap: D

13.

$$\textcircled{x} \rightarrow 3x \quad \square x \rightarrow x^4$$

$$\begin{aligned} \textcircled{a} &\rightarrow 3a^4 = 48 \\ &a^4 = 16 \\ &a^4 = 2^4 \\ &a = 2 \text{ veya } a = -2 \end{aligned}$$

$$\begin{aligned} \square b &\rightarrow (3b)^4 = 81 \\ &(3b)^4 = 3^4 \\ &3b = 3 \text{ veya } 3b = -3 \\ &b = 1 \quad b = -1 \end{aligned}$$

$a + b = 2 + 1 = 3$ en çok
en az $a + b = -2 - 1 = -3$

Cevap: A

14.

$$\begin{aligned} \triangle 4 &\cdot 4 = 60 \\ \downarrow \\ 3 \cdot (4 + 1) &\cdot 4 = 60 \end{aligned}$$

İçindeki değerin bir fazlası ile kenar sayısı çarpılıp çıkan sonuç içindeki ile çarpılıyor.

$$\begin{aligned} \square 3 &\cdot 3 = 48 \\ \downarrow \\ 4 \cdot (3 + 1) &\cdot 3 = 48 \end{aligned}$$

$$\begin{aligned} \textcircled{2} &\cdot 2 = ? \\ \downarrow \\ x = 5 \cdot (2 + 1) &\cdot 2 = 30 \end{aligned}$$

Cevap: B

15.

$$\begin{aligned} \heptagon 3 &+ \text{octagon 4} \\ \downarrow &\quad \downarrow \\ 7 \cdot 3 &+ 8 \cdot 4 = 21 + 32 = 53 \end{aligned}$$

Cevap: D

16.

$$\begin{aligned} &(7 - 3)^2 = 4^2 = 16 \\ &(5 - x)^2 = 9 \\ &5 - x = 3 \\ &2 = x \\ &(y - 5)^2 = 25 \\ &y - 5 = 5 \\ &y = 10 \\ &(4 - 3)^2 = 1 \end{aligned}$$

$$x + y = 2 + 10 = 12$$

Cevap: D

17. $\triangle 4 \cdot 5 = 69$
 $4^3 + 5 = 69$

$\hexagon 2 \cdot 5 = 69$
 $2^6 + 5 = 69$
 $= 35$

$\square 2 \cdot 4 = 20$
 $2^4 + 4 = 20$

$\triangle 3 \cdot 8 = ?$
 $3^3 + 8 = 27 + 8$
 $= 35$

Cevap: B

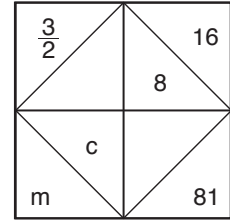
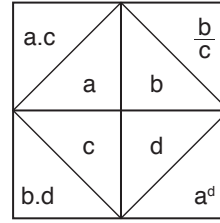
18. $\begin{matrix} & 3 & \\ & \swarrow +12 & \\ 5 & 11 & 9 \\ & \swarrow +12 & \\ & 7 & \end{matrix}$

Çıkan sonucun bir eksiği ortaya yazılmakta.

$\begin{matrix} & 6 & \\ & \swarrow +27 & \\ 11 & ? & 21 \\ & \swarrow +27 & \\ & 16 & \end{matrix} \rightarrow ? = 26$

Cevap: C

19.



$a.c = \frac{3}{2}$ $\frac{b}{c} = 16$

$b = 8$ ise

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

$a \cdot \frac{1}{2} = \frac{3}{2}$

$a = 3$

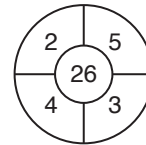
$a^d = 81 \Rightarrow 3^d = 3^4$

$d = 4$

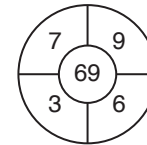
$m = b.d = 8.4 = 32$

Cevap: B

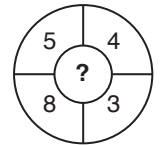
20.



$(2.3) + (4.5) = 6 + 20$
 $= 26$



$(7.6) + (3.9)$
 $42 + 27 = 69$



$= (8.4) + (5.3)$
 $= 32 + 15$
 $? = 47$

Cevap: B