

**10.
SORU**
80'de 80 net

ÇÖZÜMLER

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

+	a	b	
a		2c	
b	12		

-	a	b	
a		4	
b			

x	a	b	
a		$d^2 - b$	

$b < c < a$

$d = ?$

i) $a + b = 2c \quad 2c = 12$
 $b + a = 12 \quad c = 6$

ii) $a - b = 4$
 $a + b = 12$
 $2a = 16$
 $a = 8$ ise $b = 4$

iii) $a.b = d^2 - b$
 $8.4 = d^2 - 4$
 $32 + 4 = d^2 \Rightarrow d^2 = 36$
 $d = 6$ bulunur.

TASARI EĞİTİM YAYINLARI

Cevap: C

2.

+	a	b	c
a		8	
b			2a

x	a	b	c
a			3

$b = ?$

$a + b = 8$

$b + c = 2a$

$a.c = 3$

↓

3

i) $a + b = 8$

↓ ↓

3 5

ii) $b + c = 2a$

↓ ↓

5 + 1 = 2.3

6 = 6

O halde $b = 5$ bulunur.

Cevap: A

+	a	b	c
a			
b			16
c	8		

Toplam tablosundan,

$b + c = 16$

$c + a = 8$

x	a	b	c
a			12
b	20		
c			

$a + b = ?$

Çarpım tablosundan;

$a.b = 20$

$$\begin{array}{r} + \\ a.c = 12 \\ \hline a(b+c) = 32 \\ 16 \end{array}$$

$a = 2, b = 10, c = 6$

$a + b = 2 + 10 = 12$ bulunur.

Cevap: C

-	a	b	
a			4
b			

x	a	b	
a			4
b			

fark tablosundan;

$a - b = 4$

çarpım tablosundan;

$a.b = 4$

• $(a - b)^3 = (4)^3$

$a^3 - 3a^2b + 3ab^2 - b^3 = 64$

$$a^3 - b^3 - 3ab(a-b) = 64$$

4 4

$a^3 - b^3 - 48 = 64$

$a^3 - b^3 = 64 + 48 = 112$

Cevap: B

5. $1 \rightarrow 3 \times 3$ (2 katının bir fazlası)

$3.3 - 1^2 = 9 - 1 = 8$

$2 \rightarrow 5 \times 5$

$5.5 - 2^2 = 25 - 4 = 21$

$3 \rightarrow 7 \times 7$

$7.7 - 3^2 = 49 - 9 = 40$

O halde

$12 \rightarrow 25 \times 25$

$25.25 - 12^2 = 625 - 144 = 481$

Cevap: D

+	a	b	c
a			
b	c		6·a
c			

Toplam tablosundan;

$$b + a = c$$

$$\begin{array}{r} + \\ b + c = 6 \cdot a \\ \hline 2b + a + c = c + 6a \end{array}$$

$$\begin{array}{r} 2b = 5a \\ \downarrow \quad \downarrow \\ 5k \quad 2k \end{array}$$

- $a \cdot b = 90$
- $2k \cdot 5k = 90$
- $10k^2 = 90$
- $k^2 = 9 \Rightarrow k = 3$
- $a = 2k = 6, \quad b = 5k = 15$
- $a + b = c \Rightarrow c = 6 + 15 = 21$
- $c - b = 21 - 15 = 6$ bulunur.

x	a	b	c
a			
b	90		
c			

Çarpım tablosundan

$$a \cdot b = 90$$

+	a	b
a		4
b	4	

$$a + b = 4$$

$$b + a = 4$$

i)
$$(a + b)^2 = (4)^2$$

$$\begin{array}{r} a^2 + b^2 + 2ab = 16 \\ \hline 2 \end{array}$$

$$a^2 + b^2 + 4 = 16$$

$$a^2 + b^2 = 16 - 4 = 12$$

$$a \cdot b = 2$$

$$b \cdot a = 2$$

Cevap: C

x	a	b
a		$c^2 + 1$
b	26	

+	a	b	c
a			7
b			

Çarpım tablosundan

$$a \cdot b = c^2 + 1$$

$$b \cdot a = 26$$

$$c^2 + 1 = 26$$

$$c^2 = 25$$

$$c = 5$$

Toplam tablosundan;

$$a + c = 7$$

$$a + 5 = 7$$

$$a = 2$$

Cevap: B

TASARI EĞİTİM YAYINLARI

9.

+	a	b	c
a			$b + 7$
b	$c - 5$		
c			

+	a	b	c
a			$3a$
b			
c			

$$a + c = b + 7$$

$$\begin{array}{r} + \\ a + b = c - 5 \\ \hline 2a + b + c = b + c + 2 \end{array}$$

$$2a = 2$$

$$a = 1$$

$$a \cdot c = 3a$$

$$1 \cdot c = 3 \cdot 1$$

$$c = 3$$

• O halde

$$a + c = b + 7$$

$$1 + 3 = b + 7$$

$$4 - 7 = b$$

$$-3 = b$$
 bulunur.

Cevap: A

10.

+	2^a	2^b
2^a	2^b	
2^b		

$$2^a + 2^a = 2^b$$

$$2 \cdot 2^a = 2^b$$

$$2^{1+a} = 2^b$$

$$1 + a = b$$

x	2^a	2^b
2^a		32
2^b		

$$2^a \cdot 2^b = 32$$

$$2^{a+b} = 2^5$$

$$a + b = 5$$

$$a + 1 + a = 5$$

$$2a = 4 \Rightarrow a = 2$$

Cevap: B

12.

+	a	b
a		
b	5	

$$a + b = 5$$

x	a	b
a		3
b		

$$(a - b)^2 = ?$$

$$a \cdot b = 3$$

$$\begin{aligned}(a - b)^2 &= (a + b)^2 - 4ab \\ &= (5)^2 - 4 \cdot 3 \\ &= 25 - 12 \\ &= 13\end{aligned}$$

Cevap: B

TASARI EĞİTİM YAYINLARI

13.

+	a	b	c
a			
b			
c			

x	a	b	c
a			
b			
c			

Toplam tablosundan

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

$$\begin{array}{r} a + b = c + 3 \\ + \quad -b - c = -a + 5 \\ \hline \end{array}$$

$$a - c = c - a + 8$$

$$2(a - c) = 8$$

$$a - c = 4$$

her iki tarafın karesini alalım

$$(a - c)^2 = 4^2$$

$$\begin{array}{r} a^2 + c^2 - 2a.c = 16 \\ \hline \quad \quad \quad 5 \end{array}$$

$$a^2 + c^2 = 16 + 10 = 26$$

Cevap: E

11. $K \times L = K \cdot L$

+	K	L
K		5.K
L		
M	8.K	

x	K	L	M
K	A		
L		B	
M			C

$$i) K + L = 5K, \quad M + K = 8K$$

$$L = 4K \quad M = 7K$$

$$\frac{C}{A+B} = \frac{M^2}{K^2+L^2} = \frac{(7K)^2}{K^2+(4K)^2}$$

$$= \frac{49K^2}{K^2+16K^2} = \frac{49K^2}{17K^2} = \frac{49}{17}$$

Cevap: B

14.

+	a	b	c
a		8	
b			
c			

Toplam tablosundan

$$a + b = 8$$

x	a	b	c
a			30
b	15		
c		18	

Çarpım tablosundan

$$a \cdot b = 15$$

$$a \cdot c = 30 >$$

$$b \cdot c = 18 >$$

$$\underbrace{c(a+b)}_{5} = 48 \Rightarrow c = 6 \text{ bulunur.}$$

$$a \cdot 6 = 30$$

$$a = 5$$

$$b \cdot 6 = 18$$

$$b = 3$$

Cevap: D

16. I.

+	a	b	
c			
			d



$$(1.2).a + (1.3).b + (2.1).c + (3.4).d \\ = 2a + 3b + 2c + 12d$$

II.

	10		
5		4	



54

III.

		1	1
2			
		5	



?

I. tabloda

$$(1.2).a + (1.3).b + (2.1).c + (3.4).d \\ \swarrow \quad \searrow \quad \swarrow \quad \searrow \quad \swarrow \quad \searrow \quad \swarrow \quad \searrow \\ 1. \quad 2. \quad 1. \quad 3. \quad 2. \quad 1. \quad 3. \quad 4. \\ \text{satır} \quad \text{sütun} \quad \text{satır} \quad \text{sütun} \quad \text{satır} \quad \text{sütun} \quad \text{satır} \quad \text{sütun}$$

demek

O halde III tablomuzda

		1	1
2			
		5	



$$= (1.3).1 + (1.4).1 + (2.1).2 + (3.3).5$$

$$= 3 + 4 + 4 + 45 = 56 \text{ bulunur.}$$

Cevap: C

15.

+	a	b
a		6
b		

x	a	b
a		
b	6	

Toplam tablosu

$$a + b = 6$$



$$(a+b)^3 = 6^3$$

$$a^3 + 3a^2b + 3ab^2 + b^3 = 216$$

$$a^3 + 3ab(a+b) + b^3 = 216 \\ \overbrace{6} \quad \overbrace{6}$$

$$a^3 = b^3 = 216 - 108$$

$$a^3 + b^3 = 108 \text{ bulunur.}$$

Cevap: D

**10.
SORU**
80'de 80 net

ÇÖZÜMLER

17.

+	a	b
a		4
b		

Toplam tablosundan

$$a + b = 4$$

$$\begin{aligned}(a - b)^2 &= (a + b)^2 - 4ab \\(a - b)^2 &= (4)^2 - 4 \cdot 2 \\&= 16 - 8 \\&= 8\end{aligned}$$

bulunur.

x	a	b
a		
b	2	

Çarpım tablosundan

$$b \cdot a = 2$$

18.

+	a	b	c
a			c - 8
b			
c	b + 2		

Toplam tablosundan;

$$\begin{aligned}-/ \quad a + b &= c - 8 \\c + a &= b + 2 \\-\underline{a - b} &= -c + 8 \\-a - b &= -c + 8 \\+ \quad c + a &= b + 2 \\c - b &= b - c + 10 \\2c - 2b &= 10 \\2(c - b) &= 10 \\c - b &= 5\end{aligned}$$

her iki tarafın karesi alınır.

$$\begin{aligned}(c - b)^2 &= (5)^2 \\c^2 + b^2 - 2c.b &= 25 \\-\underline{\underline{6}} \\c^2 + b^2 + 12 &= 25 \\c^2 + b^2 &= 25 - 12 = 13\end{aligned}$$

bulunur.

x	a	b	c
a			
b			
c		-6	

Çarpım tablodan;

$$\begin{aligned}c.b &= -6 \\b^2 + c^2 &=?\end{aligned}$$

Cevap: E

19.

x	a	b	c	d
a				
b				24
c				
d	4a			8a

Tablodan

$$\begin{aligned}a.b &= 3.a, & b.c &= 24, & d.a &= 4.a \\b &= 3 & c &= 8 & d &= 4 \\c.d &= 8.a \Rightarrow 8.4 &= 8.a \\d = a &= 4 & & & &\end{aligned}$$

bulunur.

Cevap: D

TASARIM YAYINLARI

20.

+	a	b	c
a			2b+2
b			
c			a

I. tablodan

$$\begin{aligned}a + b &= 2b + 2 \\a - b &= 2\end{aligned}$$

$$\begin{aligned}a - 8 &= 2 \\a &= 10\end{aligned}$$

II. tablodan

$$\begin{aligned}c + c &= a \\2c &= a \Rightarrow 2c = 10 \\c &= 5\end{aligned}$$

O halde

$$a + b + c = 10 + 8 + 5 = 23$$

x	a	b	c
a			
b			64
c			

II. tablodan

$$\begin{aligned}b.b &= 64 \\b^2 &= 64 \\b &= 8\end{aligned}$$

Cevap: A

Cevap: D