

10.

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

$$\begin{aligned} 2^a + 2^a &= 2^b \\ 2 \cdot 2^a &= 2^b \\ 2^{1+a} &= 2^b \\ 1 + a &= b \end{aligned}$$

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

$$\begin{aligned} 2^a \cdot 2^b &= 32 \\ 2^{a+b} &= 2^5 \\ a + b &= 5 \\ a + 1 + a &= 5 \\ 2a + 1 &= 5 \\ 2a &= 4 \Rightarrow a = 2 \end{aligned}$$

Cevap: B

12.

+	a	b
a		
b	5	

$$a + b = 5$$

x	a	b
a		3
b		

$$a \cdot b = 3$$

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

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

Cevap: B

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

$$\begin{aligned} \text{i) } K + L &= 5K, \quad M + K = 8K \\ L &= 4K, \quad M = 7K \end{aligned}$$

$$\text{ii) } A = K^2, \quad B = L^2, \quad C = M^2$$

$$\begin{aligned} \frac{C}{A+B} &= \frac{M^2}{K^2+L^2} = \frac{(7K)^2}{K^2+(4K)^2} \\ &= \frac{49K^2}{K^2+16K^2} = \frac{49K^2}{17K^2} = \frac{49}{17} \end{aligned}$$

Cevap: B

13.

+	a	b	c
a		c+3	
b			a-5
c			

Toplam tablosundan

$$\begin{aligned} a + b &= c + 3 \\ -1/ \quad b + c &= a - 5 \end{aligned}$$

$$\begin{aligned} a + b &= c + 3 \\ + \quad -b - c &= -a + 5 \\ \hline a - c &= c - a + 8 \end{aligned}$$

$$\begin{aligned} 2(a - c) &= 8 \\ a - c &= 4 \end{aligned}$$

her iki tarafın karesini alalım

$$\begin{aligned} (a - c)^2 &= 4^2 \\ a^2 + c^2 - 2a \cdot c &= 16 \\ \underline{\quad \quad \quad} & \quad \quad \quad \underline{\quad \quad \quad} \\ a^2 + c^2 &= 16 + 10 = 26 \end{aligned}$$

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

Cevap: E

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

$a \cdot b = 15$

$a \cdot c = 30$

$b \cdot c = 18$

$c(a + b) = 48 \Rightarrow c = 6$ bulunur.

5

$a \cdot 6 = 30$

$a = 5$

$b \cdot 6 = 18$

$b = 3$

Cevap: D

15.

+	a	b
a		6
b		

Toplam tablosu

$a + b = 6$

↓

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

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

$a^3 + 3ab \underbrace{(a + b)}_6 + b^3 = 216$

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

$a^3 + b^3 = 108$ bulunur.

$a^3 + b^3 = ?$

Cevap: D

16. I.

+	a	b	
c			
			d

↓

$(1 \cdot 2) \cdot a + (1 \cdot 3) \cdot b + (2 \cdot 1) \cdot c + (3 \cdot 4) \cdot d = 2a + 3b + 2c + 12d$

II.

	10		
5		4	

↓

54

III.

		1	1
2			
		5	

↓

?

I. tabloda

$$\begin{array}{cccc} (1 \cdot 2) \cdot a & + & (1 \cdot 3) \cdot b & + & (2 \cdot 1) \cdot c & + & (3 \cdot 4) \cdot d \\ \swarrow \quad \searrow & & \swarrow \quad \searrow & & \swarrow \quad \searrow & & \swarrow \quad \searrow \\ 1. \quad 2. & & 1. \quad 3. & & 2. \quad 1. & & 3. \quad 4. \\ \text{satır sütun} & & \text{satır sütun} & & \text{satır sütun} & & \text{satır sütun} \end{array}$$

demek

O halde III tablomuzda

		1	1
2			
		5	

↓

$= (1 \cdot 3) \cdot 1 + (1 \cdot 4) \cdot 1 + (2 \cdot 1) \cdot 2 + (3 \cdot 3) \cdot 5$

$= 3 + 4 + 4 + 45 = 56$ bulunur.

Cevap: C

17.

+	a	b
a		4
b		

Toplam tablosundan

$$a + b = 4$$

$$(a - b)^2 = (a + b)^2 - 4ab$$

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

Cevap: E

X	a	b
a		
b	2	

Çarpım tablosundan

$$b \cdot a = 2$$

19.

x	a	b	c	d
a		3a		
b			24	
c				8a
d	4a			

Tablodan

$$a \cdot b = 3 \cdot a,$$

$$b \cdot c = 24,$$

$$d \cdot a = 4 \cdot a$$

$$b = 3$$

$$c = 8$$

$$d = 4$$

$$c \cdot d = 8 \cdot a \Rightarrow 8 \cdot 4 = 8 \cdot a$$

$$d = a = 4 \text{ bulunur.}$$

Cevap: D

18.

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

Toplam tablosundan;

$$- / a + b = c - 8$$

$$c + a = b + 2$$

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

$$+ c + a = b + 2$$

$$c - b = b - c + 10$$

$$2c - 2b = 10$$

$$2(c - b) = 10$$

$$c - b = 5$$

her iki tarafın karesi alınır.

$$(c - b)^2 = (5)^2$$

$$c^2 + b^2 - 2c \cdot b = 25$$

$$-6$$

$$c^2 + b^2 + 12 = 25$$

$$c^2 + b^2 = 25 - 12 = 13 \text{ bulunur.}$$

Cevap: A

x	a	b	c
a			
b			
c		-6	

Çarpım tablodan;

$$c \cdot b = -6$$

$$b^2 + c^2 = ?$$

TASARI EĞİTİM YAYINLARI

20.

I.			
+	a	b	c
a		2b+2	
b			
c			a

I. tablodan

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

$$a - b = 2$$

$$a - 8 = 2$$

$$a = 10$$

I. tablodan

$$c + c = a$$

$$2c = a \Rightarrow 2c = 10$$

$$c = 5$$

O halde

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

Cevap: D

II.			
x	a	b	c
a			
b		64	
c			

II. tablodan

$$b \cdot b = 64$$

$$b^2 = 64$$

$$b = 8$$