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

+	a	b
a		2c
b	12	

–	a	b
a		4
b		

x	a	b
a		$d^2 - b$

$b < c < a$ $\qquad$ $d = ?$

i) $\quad a + b = 2c$ $\qquad$ $2c = 12$ $\qquad$ ii) $a - b = 4$
$\quad \quad b + a = 12$ $\qquad$ $c = 6$ $\qquad\qquad$ $a + b = 12$
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ $\overline{\quad 2a = 16\quad}$
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ $a = 8$ ise $b = 4$

iii) $\qquad a.b = d^2 - b$

$\qquad 8.4 = d^2 - 4$

$\quad 32 + 4 = d^2 \Rightarrow d^2 = 36$

$\qquad\qquad\qquad d = 6$ bulunur.

Cevap: C

2.

+	a	b	c
a		8	
b			2a

x	a	b	c
a			3

$b = ?$

$\quad a + b = 8$ $\qquad\qquad$ $a.c = 3$
$\quad b + c = 2a$ $\qquad\qquad$ $\downarrow$
$\qquad\qquad\qquad\qquad\qquad$ 3

i) $a + b = 8$ $\qquad\qquad$ ii) $b + c = 2a$
$\quad \downarrow \quad \downarrow$ $\qquad\qquad\qquad \downarrow \quad \downarrow$
$\quad 3 \quad 5$ $\qquad\qquad\qquad 5 + 1 = 2.3$
$\qquad\qquad\qquad\qquad\qquad\qquad 6 = 6$

O halde $\quad b = 5 \quad$ bulunur.

Cevap: A

3.

+	a	b	c
a			
b			16
c	8		

x	a	b	c
a			12
b	20		
c			

$a + b = ?$

Toplam tablosundan, $\qquad$ Çarpım tablosundan;

$b + c = 16$ $\qquad\qquad\qquad\qquad$ $a.b = 20$

$c + a = 8$ $\qquad\qquad\qquad +\quad a.c = 12$
$\qquad\qquad\qquad\qquad\qquad$ $\overline{a(b + c) = 32}$
$\qquad\qquad\qquad\qquad\qquad\qquad\quad \underbrace{\quad}_{16}$

$\qquad\qquad\qquad\qquad\quad a = 2, \quad b = 10, \quad c = 6$

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

Cevap: C

4.

–	a	b
a		4
b		

x	a	b
a		4
b		

fark tablosundan; $\qquad\qquad$ çarpım tablosundan;

$\qquad a - b = 4$ $\qquad\qquad\qquad\qquad a.b = 4$

- $\quad (a - b)^3 = (4)^3$

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

$\quad a^3 - b^3 - 3\underbrace{ab}_{4}\underbrace{(a - b)}_{4} = 64$

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

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

Cevap: B

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

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

$2 \rightarrow 5 \times 5$

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

$3 \rightarrow 7 \times 7$

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

O halde

$12 \rightarrow 25 \times 25$

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

Cevap: D

TASARI EĞİTİM YAYINLARI

10.

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

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

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

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

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

$1 + a = b$

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

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

$a + b = 5$

$a + 1 + a = 5$

$2a = 4 \implies a = 2$

Cevap: B

12.

+	a	b
a		
b	5	

x	a	b
a		3
b		

$(a - b)^2 = ?$

$a + b = 5$ $a \cdot b = 3$

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

$= (5)^2 - 4 \cdot 3$

$= 25 - 12$

$= 13$

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

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

$L = 4K$ $M = 7K$

ii) $A = K^2$, $B = L^2$, $C = M^2$

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

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

Cevap: B

13.

+	a	b	c
a		c + 3	
b			a – 5
c			

x	a	b	c
a			5
b			
c			

Toplam tablosundan

$a + b = c + 3$

$-1/ \quad b + c = a - 5$

_____

$a + b = c + 3$

$+ \quad -b - c = -a + 5$

_____

$a - c = c - a + 8$

$2(a - c) = 8$

$a - c = 4$

her iki tarafın karesini alalım

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

$a^2 + c^2 - 2 a \cdot c = 16$

$\underbrace{\quad}_{5}$

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

Çarpım tablosundan

$a \cdot c = 5$

Cevap: E

14.

+	a	b	c
a		8	
b			
c			

x	a	b	c
a			30
b	15		
c		18	

Toplam tablosundan

$a + b = 8$

Çarpım tablosundan

$a.b = 15$

$a.c = 30$

$b.c = 18$

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

(under a+b: 5)

$a.6 = 30$ $b.6 = 18$

$a = 5$ $b = 3$

Cevap: D

15.

+	a	b
a		6
b		

x	a	b
a		
b	6	

$a^3 + b^3 = ?$

Toplam tablosu

$a + b = 6$

↓

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

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

$a^3 + 3ab(a + b) + b^3 = 216$

(under 3ab: 6) (under a+b: 6)

Çarpım tablosu

$a.b = 6$

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

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

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

$(1 . 2) . a + (1 . 3) . b + (2 . 1) c + (3 . 4) d$

1. satır   2. sütun   1. satır   3. sütun   2. satır   1. sütun   3. satır   4. sütun

demek

O halde III tablomuzda

		1	1
2			
		5	

↓

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

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

Cevap: C

17.

+	a	b
a		4
b		

X	a	b
a		
b	2	

Toplam tablosundan

$a + b = 4$

Çarpım tablosundan

$b.a = 2$

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

$(a - b)^2 = (4)^2 - 4.2$

$\qquad = 16 = 8$

$\qquad = 8$ bulunur.

Cevap: E

19.

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

Tablodan

$a.b = 3.a ,\qquad b.c = 24 ,\qquad d.a = 4.a$

$\quad b = 3 \qquad\qquad c = 8 \qquad\qquad d = 4$

$c.d = 8.a \quad \Rightarrow \quad 8.4 = 8.a$

$\quad d = a = 4$ bulunur.

Cevap: D

18.

+	a	b	c
a		c – 8	
b			
c	b + 2		

x	a	b	c
a			
b			
c		–6	

Toplam tablosundan;

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

$\qquad c + a = b + 2$

$\overline{\qquad -a - b = -c + 8}$

$+ \qquad c + a = b + 2$

$\overline{\qquad c - b = b - c + 10}$

$\quad 2c - 2b = 10$

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

$\qquad c - b = 5$

Çarpım tablodan;

$c.b = -6$

$b^2 + c^2 = ?$

her iki tarafın karesi alınır.

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

$c^2 + b^2 - \underbrace{2c.b}_{-6} = 25$

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

$\qquad c^2 + b^2 = 25 - 12 = 13$ bulunur.

Cevap: A

20.

I.

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

II.

x	a	b	c
a			
b		64	
c			

I. tablodan

$a + b = 2b + 2$

$a - b = 2$

II. tablodan

$b.b = 64$

$b^2 = 64$

$b = 8$

$a - 8 = 2$

$\quad a = 10$

I. tablodan

$c + c = a$

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

$\qquad\qquad\qquad c = 5$

O halde

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

Cevap: D