

1. • $z = 0$ seçilirse,

$$\begin{array}{r} y \quad | \quad 5 \\ - \quad | \quad 0 \\ \hline 4 \end{array} \Rightarrow y = 4 \text{ çıkar.}$$

- $y = 4$ yazılırsa,

$$\begin{array}{r} x \quad | \quad 4 \\ - \quad | \quad 4 \\ \hline 3 \end{array} \text{ ise } x = 4.4 + 3 = 19 \text{ olur.}$$

$$\begin{array}{r} \quad \quad | \quad 5 \\ - \quad \quad | \quad \quad \\ \hline \text{kalan} = 4 \end{array}$$

Cevap: E

2. $\begin{array}{r} 10xy \quad | \quad xy \\ - \quad \quad | \quad z \\ \hline 10 \end{array}$ ise $\begin{array}{l} 10xy = (xy).z + 10 \\ 1000 + xy = (xy).z + 10 \\ 1000 - 10 = (xy).z - xy \\ 990 = xy.(z - 1) \end{array}$

ise xy sayısı 990 sayısını tam bölmeli

$$990 = 3^2 \cdot 11^1 \cdot 2^1 \cdot 5^1 \Rightarrow \text{PBS} = 3.2.2.2 = 24 \text{ tane}$$

$$24 - \{1, 2, 3, 5, 6, 9, 10\} = 17 \text{ tane } xy \text{ vardır.}$$

Cevap: D

3. $\begin{array}{r} xy24 \quad | \quad 16 \\ - \quad \quad | \quad c \\ \hline ab \end{array}$

i) $ab < 16$ olmalı

ii) $xy24 = 16.c + ab$

Çift Çift → ab sayısı çift olmalı

i ve ii 'den 10, 12, 14 olmak üzere 3 farklı değeri vardır.

Cevap: C

4. $\begin{array}{r} 647 \quad | \quad x \\ - \quad \quad | \quad t \\ \hline y \end{array} \Rightarrow 647 - y = x.t$

$$\begin{array}{r} 447 \quad | \quad x \\ - \quad \quad | \quad k \\ \hline y \end{array} \Rightarrow -447 - y = x.k$$

$$200 = x.(t - k) \Rightarrow x \text{ 200'ün bölenleridir.}$$

$$200 = 2^{\textcircled{3}} \cdot 5^{\textcircled{2}} = x.(t - k)$$

$$\text{Pozitif bölen sayısı} = (\textcircled{3} + 1).(\textcircled{2} + 1) = 12$$

Fakat $x = 1$ olursa $y = 0$ olacağından ve $y \neq 0$ olduğundan $12 - 1 = 11$ farklı değer alır.

Cevap: C

5. $\begin{array}{r} xx \quad | \quad 9 \\ - \quad \quad | \quad x \\ \hline 6 \end{array} \Rightarrow \begin{array}{l} xx = 9.x + 6 \\ 11x = 9x + 6 \\ 2x = 6 \rightarrow x = 3 \text{ olur.} \end{array}$

$$yz = 27 \leftarrow \begin{array}{r} 33 \quad | \quad 9 \\ - \quad 27 \quad | \quad 3 \\ \hline 6 \end{array}$$

O halde $x + y + z = 3 + 2 + 7 = 12$ olur.

Cevap: B

$$6. \quad \begin{array}{r} 5m+n \quad | \quad m+n \\ - \quad \quad \quad | \quad \quad \quad \\ \hline 6 \end{array}$$

$$\Rightarrow 5m+n = 3(m+n) + 6$$

$$5m+n = 3m+3n+6$$

$$2m-2n=6$$

$$m-n=3$$

$$\bullet \quad 6 < m+n \text{ olmalı}$$

$$\downarrow \quad \downarrow$$

$$\cancel{3} \quad \cancel{0}$$

$$\cancel{4} \quad \cancel{1}$$

$$5 \quad 2$$

O halde m'nin en küçük değeri 5 olur.

Cevap: B

$$7. \quad \begin{array}{r} xyxx \quad | \quad xy \\ - \quad xy \quad | \quad 101 \Rightarrow A=101 \\ \hline 0xx \end{array}$$

$$\begin{array}{r} - \quad xy \\ \hline 2 \end{array} \Rightarrow x-y=2$$

I. $x-y=2$ ise $x=y+2$ ve $x>y$ olur.

II. $A=101$ olur.

III. $x-y=2$ 'dir.

O halde I, II ve III doğru

Cevap: E

$$8. \quad \bullet \quad \begin{array}{r} a \quad | \quad b \\ - \quad \quad | \quad 8 \\ \hline c \end{array} \rightarrow a=8b+c$$

$$\bullet \quad a-b=9c$$

$$8b+c-b=9c$$

$$7b+c=9c$$

$$7b=8c \Rightarrow c=7 \text{ ve } b=8$$

$$\Rightarrow a=8b+c=8 \cdot 8+7=71$$

Cevap: C

$$9. \quad \bullet \quad \begin{array}{r} AB \quad | \quad 24 \\ - \quad \quad | \quad 4 \\ \hline m \end{array} \Rightarrow AB=4 \cdot 24+m$$

$$AB=96+m$$

$$\downarrow$$

0, 1, 2, 3 değerlerini alabiliriz.

• m'nin alabileceği değerler toplamı,

$$0+1+2+3=6 \text{ dir.}$$

Cevap: B

$$10. \quad \begin{array}{r} 225-x \quad | \quad x \\ - \quad \quad \quad | \quad 4 \\ \hline 25 \end{array} \Rightarrow 225-x=4x+25$$

$$200=5x$$

$$x=40 \text{ olur.}$$

Cevap: D

$$11. \quad \begin{array}{r} 97 \dots \quad | \quad 3b \\ - \quad \quad \quad | \quad 3 \end{array}$$

$$3.3b \leq 97 \text{ olmalı}$$

$$3 \cdot (30+b) \leq 97$$

$$90+3b \leq 97$$

$$3b \leq 7$$

\hookrightarrow 0, 1, 2 yazılabilir.

O halde b 3 farklı değer alabilir.

Cevap: C

$$12. \quad \begin{array}{r} m+1 \\ - \quad \quad \quad \\ \hline 5 \end{array} \left| \begin{array}{l} n+4 \\ n+3 \end{array} \right. \Rightarrow \begin{array}{l} n+4 > 5 \\ n > 1 \\ \quad \downarrow \\ \quad \text{en az 2 olur.} \end{array}$$

$$\begin{array}{r} m+1 \\ - \quad \quad \quad \\ \hline 5 \end{array} \left| \begin{array}{l} 6 \\ 5 \end{array} \right. \Rightarrow \begin{array}{l} m+1 = 6.5 + 5 \\ m+1 = 35 \\ m = 34 \end{array}$$

$\Rightarrow m+n$ en az $34+2=36$ olur.

Cevap: D

$$13. \quad \begin{array}{r} K \\ - \quad \quad \quad \\ \hline 7 \end{array} \left| \begin{array}{l} 10 \\ M \end{array} \right. \rightarrow K = 10M + 7$$

$$\begin{array}{r} K+5 \\ - \quad \quad \quad \\ \hline L \end{array} \left| \begin{array}{l} M-3 \\ 10 \end{array} \right. \Rightarrow \begin{array}{l} K+5 = 10(M-3) + L \\ 10M+7+5 = 10M-30+L \\ 12 = -30+L \\ L = 42 \text{ olur.} \end{array}$$

Cevap: B

$$14. \quad \begin{array}{r} x^2-2x \\ - \quad \quad \quad \\ \hline 4-2x \end{array} \left| \begin{array}{l} y \\ 2x \end{array} \right. \rightarrow \begin{array}{l} x^2-2x = y.2x + 4 - 2x \\ x^2-4 = y.2x \\ y = \frac{x^2-4}{2x} \end{array}$$

Cevap: A