

1. $A = \{a, b, c, m\}$
 $B = \{a, d, e, m\}$
 $\Rightarrow B - A = \{d, e\}$ ve $c = \{f, e\}$
 O halde $(B - A) \cup C = \{d, e, f\}$ olur.

Cevap: E

2. • $(A \cup C) \cap B = (A \cap B) \cup (B \cap C)$
 • $A \cap B = \{1, 2, 3, 4\}$
 $B \cap C = \{1, 2, 5, 6\}$
 $\Rightarrow (A \cap B) \cup (B \cap C) = \{1, 2, 3, 4, 5, 6\}$
 olmak üzere 6 elemanlıdır.

Cevap: D

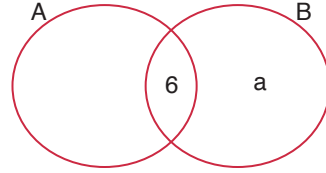
3. $\{a, b, d\} \subseteq A$ doğru.
 a, b ve d elemanları A kümesinin elemanları olduğundan $\{a, b, d\}$ alt kümesidir.

Cevap: D

4. • $s(A - B) = 2 \cdot s(A \cap B) + 6$
 \downarrow
 x
 $\Rightarrow s(A - B) = 2x + 6$ olur.
 • $s(A) = s(A - B) + s(A \cap B) = 2x + 6 + x = 3x + 6$
 • $s(A) = 3s(B)$
 $3x + 6 = 3 \cdot s(B) \Rightarrow s(B) = x + 2$
 O halde $s(B - A) = s(B) - s(A \cap B)$
 $= x + 2 - x$
 $= 2$ olur.

Cevap: B

5.



$$s(B - A) = a \Rightarrow s(B) = a + 6$$

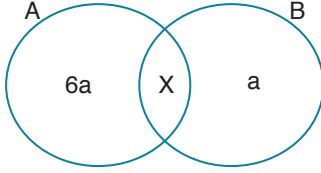
O halde $s(A) = 2(a + 6) = 2a + 12$
 $\Rightarrow s(A) + s(B) = a + 6 + 2a + 12 = 36$
 $3a + 18 = 36$
 $3a = 18$
 $a = 6$

Cevap: D

6. $5s(A \setminus B) = 7 \cdot s(A \cap B) = s(A \cup B) = 35k$
 $\Rightarrow s(A \setminus B) = 7k, s(A \cap B) = 5k, s(A \cup B) = 35k$
 $s(B \setminus A) = s(A \cup B) - s(A \setminus B) - s(A \cap B)$
 $= 35k - 7k - 5k$
 $= 23k \quad (k = 2 \text{ için})$
 $= 46$ olabilir.

Cevap: B

7.



$$\begin{aligned} \bullet \quad s(A - B) &= 6 \cdot s(B - A) \\ s(B - A) &= a \text{ ise} \\ s(A - B) &= 6a \text{ olur.} \end{aligned}$$

$$\begin{aligned} \bullet \quad s(A) &= 5 \cdot s(B) \\ 6a + x &= 5(x + a) \\ 6a + x &= 5x + 5a \\ a &= 4x \\ \Rightarrow a \text{ en az } 4 \text{ ve } x \text{ en az } 1 \text{ olur.} \end{aligned}$$

O halde A kümesi en az $6a + x = 6 \cdot 4 + 1 = 25$ elemanlıdır.

Cevap: B

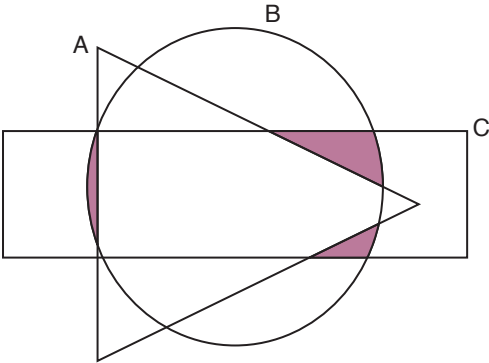
8. $\text{obeb}(48, 120) = 24$

O halde obelerin böleni kadar ortak bölenleri olacaktır.

$$\frac{24}{1, 2, 3, 4, 6, 8, 12, 24} \rightarrow s((48) \cap s(120)) = 8 \text{ dir.}$$

Cevap: D

9.



Boyalı bölge $(B \cap C) - A$ ile ifade edilir.

Cevap: A

$$\begin{aligned} 10. \bullet \quad s(A \cap B) &= 2 \cdot s(B \setminus A) - 9 \\ &\quad \downarrow \\ &\quad x \end{aligned}$$

$$\Rightarrow s(A \cap B) = 2x - 9$$

$$\begin{aligned} \bullet \quad 2 \cdot s(A \cap B) &= s(A \setminus B) \\ 2 \cdot (2x - 9) &= s(A \setminus B) \\ s(A \setminus B) &= 4x - 18 \end{aligned}$$

$$\begin{aligned} \Rightarrow s(A \cup B) &= s(A \setminus B) + s(B \setminus A) + s(A \cap B) \\ 50 &= 4x - 18 + x + 2x - 9 \\ 50 &= 7x - 27 \\ 7x &= 77 \\ x &= 11 \end{aligned}$$

$$\begin{aligned} \Rightarrow s(A) &= s(A \setminus B) + s(A \cap B) \\ &= 4x - 18 + 2x - 9 \\ &= 6x - 27 \\ &= 66 - 27 \\ &= 39 \text{ olur.} \end{aligned}$$

Cevap: B

Tasarı Eğitim Yayınları

$$\begin{aligned} 11. \text{ I. } s(A \cup B) &= s(A) + s(B) - s(A \cap B) \\ 12 &= s(A) + s(B) - 5 \\ \Rightarrow s(A) + s(B) &= 17 \end{aligned}$$

II. $s(A) + s(B) = 17$ 'dir. $s(A)$ 'yı bilmediğimizden $s(B)$ 'yi bulamayız.

$$\begin{aligned} \text{III. } s(A \cup B) &= s(A - B) + s(B - A) + s(A \cap B) \\ 12 &= s(A - B) + s(B - A) + 5 \\ s(A - B) + s(B - A) &= 7 \end{aligned}$$

I ve III bulunabilir.

Cevap: C