

WORKSHEET

Symmetric Difference of Sets

Unsolved with Answer key



WORKSHEET

Symmetric Difference of Sets

Q1. If $A = \{x, y, z\}$ and $B = \{y, z, w\}$, find $A \Delta B$.

Q2. Let $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5, 6\}$, Find $A \Delta B$.

Q3. If $A = \{a, b, c, d\}$ and $B = \{c, d, e\}$, determine $A \Delta B$.

Q4. Given the sets $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5, 6\}$, find $A \Delta B$.

Q5. Given three sets $X = \{2, 4, 6, 8\}$, $Y = \{4, 8, 12\}$, and $Z = \{6, 8, 10\}$, find: $(X \Delta Y) \Delta Z$.

Q6. Consider two groups of students participating in two different sports:

- Group 1: $P = \{1, 2, 3, 4\}$ (Cricket players)
- Group 2: $Q = \{3, 4, 5, 6\}$ (Football players)

Find the symmetric difference $P \Delta Q$. (Hint: Identify students who participate in only one of the two sports.)

Q7. Given sets $A = \{1, 2, 3, 7\}$ and $B = \{2, 3, 4, 8\}$, find: $(A \Delta B) \Delta \{3, 7\}$.

Q8. Given the sets $C = \{5, 6, 7\}$ and $D = \{5, 6, 7\}$, determine: What is $C \Delta D$?

- (Hint: When two sets are identical, what is their symmetric difference?)

Answer Key

Symmetric Difference of Sets

1. $\{x, w\}$
2. $\{1, 2, 5, 6\}$
3. $\{a, b, e\}$
4. $A \Delta B = \{1, 2, 5, 6\}$
5. $(X \Delta Y) \Delta Z = \{2, 10, 12\}$
6. $P \Delta Q = \{1, 2, 5, 6\}$
7. $(A \Delta B) \Delta \{3, 7\} = \{1, 3, 4, 8\}$
8. $C \Delta D = \emptyset$