



Class 11 Mathematics | Sets

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. If $A = \{1, 2, 3\}$ and $B = \{3, 4\}$, find $A \cup B$.

A. $\{1, 2, 3, 4\}$ B. $\{1, 2\}$ C. $\{1, 2, 3, 3, 4\}$ D. $\{3\}$

2. If $A = \{2, 4, 6, 8\}$ and $B = \{4, 8, 12\}$, find $A \cap B$.

A. $\{4, 8\}$ B. $\{2, 4, 6, 8, 12\}$ C. $\{2, 6\}$ D. $\{12\}$

3. For $A = \{1, 3, 5\}$ and $B = \{3, 4\}$, $A - B$ equals:

A. $\{3\}$ B. $\{1, 5\}$ C. $\{1, 3, 4, 5\}$ D. $\{4\}$

4. How many subsets does a four-element set have?

A. 8 B. 16 C. 15 D. 4

5. How many proper subsets does a three-element set have?

A. 6 B. 8 C. 3 D. 7

6. If $n(A) = 18$, $n(B) = 15$ and $n(A \cap B) = 7$, find $n(A \cup B)$.

A. 11 B. 26 C. 40 D. 33

7. In $U = \{1, 2, 3, 4, 5\}$, if $A = \{2, 4\}$, find A' .

A. $\{1, 3, 5\}$ B. $\{1, 2, 3\}$ C. $\{5\}$ D. $\{2, 4\}$

8. Which set is empty?

A. $\{\text{real } x: x^2 + 1 = 0\}$ B. $\{\text{natural } x: x < 2\}$
C. $\{0\}$ D. $\{x: x^2 = 0\}$

9. If $A \subseteq B$, then $A \cap B$ is:

A. B B. $\emptyset$ C. $A - B$ D. A

10. Which identity is always true?

A. $(A \cup B)' = A' \cap B'$ B. $A - B = B - A$
C. $A \cap A' = U$ D. $(A \cup B)' = A' \cup B'$

11. If $A = \{1, 2\}$ and $B = \{2, 3\}$, then $(A \cup B) - (A \cap B)$ is:

A. $\{1, 3\}$ B. $\{1, 2, 3\}$ C. $\{2\}$ D. $\emptyset$

12. If A and B are disjoint, $n(A \cup B)$ equals:

A. 0 B. $n(A) - n(B)$ C. $n(A) + n(B)$ D. $n(A)n(B)$

13. Which statement is true for every set A?

A. $A = \emptyset$ B. $\emptyset \in A$ C. $\emptyset \subseteq A$ D. $A \subseteq \emptyset$

14. The interval $(-2, 3]$ contains which number?

A. -3 B. 3 C. 4 D. -2

15. If $A = \{x \in \mathbb{Z}: -2 < x \leq 2\}$, then $n(A)$ is:

A. 3 B. 2 C. 4 D. 5

ANSWER KEY — check after completing all 15 questions

1.A 2.A 3.B 4.B 5.D 6.B 7.A 8.A 9.D 10.A 11.A 12.C 13.C 14.B 15.C