

Class XI
Chapter 1 - SETS
MODULE 2/2
Worksheet

MCQ / One mark questions

- 1 If $A = \{1\}$ Find $n(P(P(A)))$
a)1 b)2 c)4 d)16
- 2 Number of subset(s) of an empty set is
a) 0 b)1 c)2 d)not defined
- 3 Let $C = \{x : x \text{ is an even prime number greater than } 2\}$. Then C is
a) a finite set b)an empty set c)an infinite set d) not a set
- 4 Number of subsets of the set $\{2,3,4\}$ is
a)3 b)9 c)8 d) 6
- 5 Representation of $\{x: x \in \mathbb{R}, -3 < x \leq 8\}$ as interval is
a) $[-3,8]$ b) $(-3,8)$ c) $[-3, 8)$ d) $(-3,8]$
- 6 Let $A = \{x | x \in \mathbb{R}, x \geq 4\}$ and $B = \{x | x \in \mathbb{R}, x < 5\}$ Then $A \cap B$ is
a) $\{4\}$ b) $\{4,5\}$ c) $[4,5)$ d) $(4,5)$
- 7 Let A and B be two sets such that: $n(A) = 20$, $n(A \cup B) = 42$ and $n(A \cap B) = 4$. Find $n(B)$.
a)18 b) 18 c)20 d)26
- 8 The number of elements in the power set $P(S)$ of the set $S = \{\{\phi\}, 1, \{2,3\}\}$ is
a) 4 b)8 c)2 d)16
- 9 If A and B are sets and $A \cup B = A \cap B$
a) $A = \emptyset$ b) $B = \emptyset$ c) $A = B$ d)None of these

Two marks questions

- 10 If $P = \{1,2,3,4\}$, $Q = \{2,4,6,8\}$ and $R = \{3,4,5,6\}$ find $P \cap (Q \cup R)$
- 11 Find the power set of $\{a, b, c\}$.
- 12 Write the following intervals in set-builder form: (i) $(-7,0)$ (ii) $[6,12]$
- 13 If X and Y are two sets such that $n(X) = 15$, $n(Y) = 23$ and $n(X \cup Y) = 31$, find $n(X \cap Y)$.
- 14 Let $A = \{p, q, r, s\}$ $B = \{p, s, t\}$. Find i) $A \cap B$ ii) $A \cup B$
Find all the subsets of $\{2,4,6\}$
- 15 Two finite sets have m and n elements. The total no. of subsets of the first set is 56 more than the total no. of subsets of second set. Find the value of m and n.

Four/Six marks questions

16 Let $U = \{1,2,3,4,5,6,7\}$, $A = \{2,4,6\}$, $B = \{3, 5\}$ and $C = \{1,2,4,7\}$, verify that:

(i) $(A \cup B) \cap C = A \cap (B \cap C)$ ii) $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$

17 In a group of 50 people, 35 speak Hindi, 25 speak both English and Hindi and all the people speak at least one of the two languages. How many people speak on English and not Hindi? How many people speak English?

18 In a survey of 100 persons, it was found that 28 read magazine A, 30 read magazine B, 42 read magazine C, 8 read magazines A and B, 10 read magazines A and C, 5 read magazines B and C and 3 read all the three magazines. Find i) how many read at least one of the three magazines ii) how many read magazine C only?
