

Board – ICSE

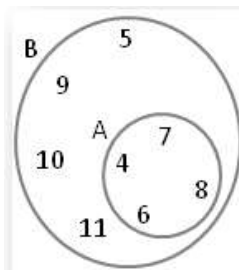
Class –VIII

Topic – SETS

1. Write the following sets in roster (Tabular) form : $A = \{y : 5y + 3 = 13\}$
2. Write the following sets in set-builder (Rule Method) form : $B = \{2,3,5,7,11,13,17,19\}$
3. Write the set of odd factors of 72.
4. List the elements of the following sets: $\{x : 3x - 2 \leq 10, x \in \mathbb{N}\}$
5. Find the cardinal number of the following sets: $A = \{x : x \in \mathbb{N} \text{ and } 3 \leq x < 7\}$.
6. Classify the following as finite and infinite sets.
 - a) The set of days in a week
 - b) $B = \{x : x \text{ is an even prime number}\}$
7. If C is the set of letters in the word “cooler”, find
 - a) Set C
 - b) $n(C)$
 - c) Number of its subsets
 - d) Number of its proper subsets.
8. Write down the union and intersection of the following pairs of sets
 $X = \{a, b, c, d, e\}$ and $Y = \{c, e, f, g\}$
9. Show by Venn diagrams the relationship between the following
 $U = \{\text{people who live in India}\}; V = \{\text{people who live in Delhi}\}$
10. Let $M = \{\text{Natural numbers between 10 and 40; each divisible by 3}\}$
 $N = \{\text{Natural numbers up to 40; each divisible by 4}\}$
 - a) Write each in roster form.
 - b) Draw a Venn-diagram showing the relationship between sets M and set N.

11. From the given Venn diagram, find the following sets:

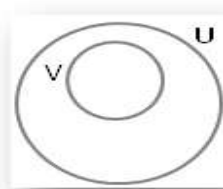
- a) A
- b) B
- c) $A \cup B$
- d) $A \cap B$



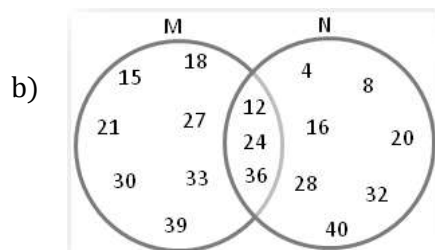
Answer

1. $y = \{2\}$
2. $B = \{x: x \text{ is prime less than } 20\}$
3. Set of odd factors of 72 = $\{1, 3, 9\}$.
4. $A = \{1, 2, 3, 4\}$
5. 4
6. a) Finite set b) Infinite set
7. a) $C = \{c, o, l, e, r\}$ b) $n(C) = 5$ c) Number of its subsets : $2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$
d) Number of its proper subsets = $2^5 - 1 = 32 - 1 = 31$.
8. $X \cup Y = \{a, b, c, d, e, f, g\}$ and $X \cap Y = \{c, e\}$.

9.



10. a) $M = \{12, 15, 18, 21, 24, 27, 30, 33, 36, 39\}$ and $N = \{4, 8, 12, 16, 20, 24, 28, 32, 36, 40\}$



11. a) $\{4, 6, 7, 8\}$
- b) $\{4, 5, 6, 7, 8, 9, 10, 11\}$
- c) $\{4, 5, 6, 7, 8, 9, 10, 11\}$
- d) $\{4, 6, 7, 8\}$