

ans - {September, October, November, December}

HW
30.01.21

Ex - 10(D)

1. State whether whether the given set is infinite or finite.

i) {3, 5, 7, ...} - infinite.

ii) {1, 2, 3, 4} - finite.

iii) {0, -1, -2, -3, -4, -5, ...} - infinite.

iv) {20, 30, 40, 50, ...} - finite.

2. Which of the following sets is empty?

i) Set of counting numbers between 5 and 6. Empty.

ii) Set of odd numbers between 7 and 19. Not empty.

iii) Set of odd numbers between 7 and 9. Empty.

iv) Set of even numbers that are not divisible by 2. Empty.

v) {0} - Not empty.

3. State which pairs of sets given are equal sets and which are equivalent:

i) {3, 5, 7} and {5, 3, 7} - Equal set.

ii) {8, 6, 10, 12} and {3, 2, 4, 6} - Equivalent set.

iii) {7, 7, 2, 1} and {1, 2, 7} - Equal set.

iv) {2, 4, 6, 8, 10} and {a, b, c, e, m} - Equivalent set.

4. State which of the following are finite sets and which are infinite:

i) Set of integers - Infinite set.

ii) {Multiples of 5} - Infinite set.

iii) {Fractions between 1 and 2} - Infinite set.

iv) {Number of people in India} - finite set.

v) Set of trees in the world - Infinite set.

vi) Set of leaves on a tree - Infinite set.

- vii) Set of children in all the school of Delhi - Infinite set.
 viii) $\{\dots, -4, -2, 0, 2, 4, 6, 8\}$ - Infinite set
 ix) $\{-12, -9, -6, -3, 0, 3, 6, \dots\}$ - Infinite set
 x) $\{\text{Number of points in a line segment 4 cm long}\}$ - Infinite set

$$9x - 10 \text{ (9)}$$

- 3) Given: $A = \{\text{Natural numbers less than 10}\}$
 $B = \{\text{Letters of the word 'PUPPET'}\}$
 $C = \{\text{squares of the first four whole numbers}\}$
 $D = \{\text{Odd numbers divisible by 2}\}$

Find:

- i) $n(A) = 9$
 ii) $n(B) = 4$
 iii) $n(C) = 4$
 iv) $n(D) = 0$

3. State true or false. Correct the wrong statements.

- i) If $A = \{0\}$, then $n(A) = 0$. False - $n(A) = 1$
 ii) $n(\emptyset) = 1$. False - $n(\emptyset) = 0$
 iii) If $T = \{a, 1, a, h, b, d, h\}$, then $n(T) = 5$. True.
 iv) If $B = \{1, \bar{h}, \bar{h}, 1, 1\bar{h}, \bar{h}, 1\}$, then $n(B) = 6$. False - $n(B) = 4$

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