

Ch-10 Sets

Exercise-10D

1) State whether the given set is infinite or finite :-

i) $\{3, 5, 7, \dots\}$ Infinite

ii) $\{1, 2, 3, 4\}$ Finite

iii) $\{\dots, -3, -2, -1, 0, 1, 2\}$ Infinite

iv) $\{20, 30, 40, 50, \dots, 200\}$ 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 pair of sets given below are equal sets, and which are equivalent sets :-

i) $\{3, 5, 7\}$ and $\{5, 3, 7\}$ Equal and equivalent

ii) $\{8, 6, 10, 12\}$ and $\{3, 2, 4, 6\}$ Equivalent

iii) $\{7, 7, 2, 1, 2\}$ and $\{1, 2, 7\}$ Equal

iv) $\{2, 4, 6, 8, 10\}$ and $\{a, b, d, e, m\}$ Equivalent

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

i) Set of integers. Infinite

ii) $\{ \text{Multiples of } 5 \}$. Infinite

iii) $\{ \text{Fractions between } 1 \text{ and } 2 \}$ Finite Infinite

iv) $\{ \text{Number of people in India} \}$ Finite

v) Set of trees in the world. Infinite

vi) Set of leaves on a tree. Finite

vii) Set of children in all schools of Delhi. Finite

viii) $\{ \dots, -4, -2, 0, 2, 4, 6, 8 \}$ Infinite

ix) $\{ -12, -9, -6, -3, 0, 3, 6, \dots \}$ Infinite

x) $\{ \text{Number of points in a line segment of } 4 \text{ cm long} \}$ Infinite

Exercise - 10 E

2) Given :-

A = { Natural numbers less than 10 }

B = { Letters of the word 'PUPPET' }

C = { Squares of the first four whole numbers }

D = { 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 for each of the following. Correct the wrong statement.

i) If $A = \{0\}$, then $n(A) = 0$. False \rightarrow If $A = \{0\}$, then $n(A) = 1$.ii) $n(\emptyset) = 1$. False $\rightarrow n(\emptyset) = 0$ iii) If $T = \{a, l, a, b, b, d, h\}$; then $n(T) = 5$.
Trueiv) If $B = \{1, 5, 5, 1, 5, 1\}$, then $n(B) = 6$. False
If $B = \{1, 5, 5, 1, 5, 1\}$, then $n(B) = 4$.