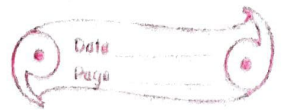


13/10/21

Ex-10(D)



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
- v) $\{7, 14, 21, \dots, 240\}$ - Finite

2) Which of the following sets is empty?

i) Set of counting numbers between 5 and 6.

empty set

ii) Set of odd numbers between 7 and 19.

Not an empty set

iii) Set of odd numbers between 7 and 9.

~~Not an~~ empty set

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

empty set

v) $\{0\}$.

not an empty set

3) State which pairs of sets given below 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) $\{7, 7, 2, 1, 2\}$ and $\{1, 2, 7\}$

Equal set

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

Equivalent set

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

i) Set of integers - Infinite

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

iii) $\{ \text{Ratios between } 1 \text{ and } 2 \}$ - Infinite

Equivalent set

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

Equal set

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

Equivalent set

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

i) Set of integers - Infinite

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

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

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

v) Set of trees in the world - Infinite

vi) Set of leaves on a tree - Infinite

vii) Set of children in all schools of Delhi - Infinite

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

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

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

Infinite

5) State whether or not the following sets are empty -

i) $\{ \text{Prime numbers divisible by 2} \}$ - not empty

ii) $\{ \text{Negative natural numbers} \}$ - empty

iii) $\{ \text{Women with height 5 metres} \}$ - empty

iv) $\{ \text{Integers less than 5} \}$ - not empty

v) $\{ \text{Prime numbers between 17 and 23} \}$ - not empty

vi) Set of even number not divisible - Empty

vii) Set of multiples of 3 that are more than 9 and less than 15. - Not empty

6) State if the given pairs of sets are equal sets or equivalent sets:

i) $\{\text{Natural numbers less than five}\}$ and $\{\text{Letters of the word 'BOAT'}\}$.

Equivalent set

ii) $\{2, 4, 6, 8, 10\}$ and $\{\text{even natural numbers less than 12}\}$.

Equal set

iii) $\{1, 3, 5, 7, \dots\}$ and set of ~~all~~ odd natural numbers.

Equal set

iv) $\{\text{Letters of the word MEMBER}\}$ and $\{\text{Letters of the word 'REMEMBER'}\}$.

Equal set

v) $\{\text{Negative natural numbers}\}$ and $\{50^{\text{th}} \text{ day of a month}\}$.

Equal set

vi) Equivalent set

7) State, whether the following are finite or infinite sets:

i) Finite

iii) Finite

v) Infinite

iii) $\{ \text{Letters of the word 'REMEMBER'} \}$
of the word $\{ \text{REMEMBER} \}$

Equal set

iv) $\{ \text{Negative natural numbers} \}$ and 50^{th} day
of a month?

Equal set

v) Equivalent set

State, whether the following are finite or infinite sets:

i) Finite

iii) Finite

v) Infinite

ii) Infinite

iv) Finite

vi) Finite

8) For each statement, given below, write True or False:

- i) False
- ii) False
- iii) True
- iv) True
- v) True
- vi) False
- vii) True
- viii) False

9) State, giving reasons, which of the following pairs of sets are disjoint sets and which are overlapping sets:

- i) Disjoint sets; as no girl can be age below 15 years and also above 15 years.
- ii) Overlapping sets; as boys above 27 years are also above 20 years.
- iii) Overlapping sets; as natural numbers from 50 to 59 are common to both the sets.
- iv) Overlapping sets; as students of class IX studying in I, C, S, E. board are common.
- v) Overlapping sets; as natural number 24 is common to both the sets.
- vi) Disjoint sets; as no letter is common of both the sets.