

17.6
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Exercise 10(2)

1) State, whether the given sets is infinite or finite:

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

Ans - The given set is infinite.

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

Ans - The given set is finite.

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

Ans - The given set is infinite.

iv) $\{20, 30, 40, 50, \dots, 200\}$

Ans - The given set is finite.

2) Which of the following sets is empty?

i) Set of counting numbers between 5 and 6.

Ans - The given set is empty.

ii) Set of odd numbers between 7 and 19.

Ans - The given set is not empty.

iii) Set of odd numbers between 7 and 9.

Ans - The given set is empty.

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

Ans - The given set is empty.

v) $\{0\}$

Ans - The given set is not empty.

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

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

Ans - The given set is Equal set.

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

Ans - The given set is Equivalent set.

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

Ans - The given set is a Equal set.

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

Ans - The given set is Equivalent set,

v) $\{5, 5, 2, 4\}$ and $\{5, 4, 2, 2\}$

Ans - The given set is a Equal set.

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

i) Set of Integers

Ans - The given set is Infinite.

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

Ans - The given set is Infinite.

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

Ans - The given set is Infinite.

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

Ans - The given set is Finite.

v) Set of trees in the world.

Ans - The given set is Infinite.

vi) Set of leaves on a tree.

Ans - The given set is finite.

vii) Set of children in all schools of Delhi.

Ans - The given set is finite.

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

Ans - The given set is Infinite.

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

Ans - The given set is Infinite.

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

Ans - The given set is Infinite.

5. State whether or not the following sets are empty:

i) {Prime numbers divisible by 2}

Ans- The given set is not empty.

ii) Negative natural numbers.

Ans- The given set is Empty.

iii) {Woman with height 5 metre}

Ans- The given set is Empty.

iv) {Integers less than 5}

Ans- The given set is not Empty.

v) {Prime numbers between 1 and 23}

Ans- The given set is not Empty.

vi) Set of even numbers ~~less than~~ not divisible by 2

Ans- The given set is empty.

vii) Set of multiples of 3 that are more than 9 and less than 15.

Ans- The given set is not empty.

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

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

Ans- The given set is Equivalent.

ii) {2, 4, 6, 8, 10} and {Even natural numbers less than 12}

Ans- The given set is Equal.

iii) {1, 3, 5, 7, ...} and set of odd natural numbers.

Ans- The given set is Equal.

iv) {Letters of the word MEMBER} and {Letters of the word REMEMBER}

Ans- The given set is Equal.

v) {Negative natural numbers} and {50th day of a month}

Ans- The given set is Equal and Equivalent.

vi) {Even natural numbers} and {odd natural numbers}

Ans- The given set is Equivalent.