Ex. 10.1

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

i) $\{3, 5, 7, \ldots\}$ → Infinite set

ii) $\{1, 2, 3, 4\}$ → Finite set

iii) $\{\ldots, -3, -2, -1, 0, 1, 2\}$ → Infinite set

iv) $\{20, 30, 40, 50, \ldots, 200\}$ → Finite set

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2) Which of the following sets is empty?

i) Set of counting numbers between 5 and 6.

Ans→ yes, they are empty set.

ii) Set of odd numbers between 7 and 19.

Ans→ No, they are not empty.

iii) Set of odd numbers between 7 and 9.

Ans→ yes, they are empty.

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

Ans→ yes, they are empty.

v) {0}

Ans→ yes, they are 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→ They are both equal and equivalent.

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

Ans→ They are equivalent.

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

Ans→ They are equal.

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

Ans→ They are equivalent.

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

i) Set of integers

Ans→ Infinite Set

ii) {Multiples of 5}

Ans→ Infinite Set

iii) {Fractions between 1 and 2}

Ans→ Infinite Set

iv) {Number of people in India}

Ans→ Infinite Set

v) Set of trees in the world.

Ans→ Infinite Set

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vi) Set of leaves on a tree.

Ans → Finite set

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

Ans → Finite set

viii) {...., -4, -2, 0, 2, 4, 6, 8}

Ans → Infinite set

ix) {-12, -9, -6, -3, 0, 3, 6, ...}

Ans → Infinite Set

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

Ans → Finite Set

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

i) Not empty

ii) Empty

iii) Empty

iv) Not Empty

v) Not Empty

Ans

Examples

vii) Empty

viii) Not Empty

6) i) Equivalent set

ii) Equal set

iii) Equal set

iv) Equal set

v) Equal set

vi) Equivalent set

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