

Ex (100) e

1) state whether the given set is finite or infinite:

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

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

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

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

2) which of the following sets is empty?

Ans - (iii) and (iv)

3) state which pair of sets given below are equal sets and which are equivalent:

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

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) ~~Set~~ state which of the following sets are finite or infinite:

- i) set of integers - infinite
- ii) $\{ \text{multiples of } 5 \}$ - infinite
- iii) $\{ \text{fractions between } 1 \text{ and } 2 \}$ - finite
- iv) $\{ \text{Number of people in India} \}$ - finite
- v) set of trees in the world - ~~is~~ finite
- vi) set of leaves on a tree - infinite
- vii) set of children in all the schools of Delhi - ~~is~~ finite
- viii) $\{ \dots, -4, -2, 0, 2, 4, 6, 8 \}$ - infinite
- ix) $\{ -12, -9, -6, -3, 0, 3, 6, \dots \}$ - infinite
- x) $\{ \text{Number of points in a line segment } 4 \text{ cm long} \}$ - ~~is~~ infinite

5) state whether or not the following sets are empty:

- i) $\{ \text{Prime numbers divisible by 2} \}$ - Not empty
- ii) $\{ \text{Women with height 5 metre} \}$ - empty
- iii) $\{ \text{Prime numbers between 17 and 23} \}$ - Not empty
- iv) $\{ \text{Set of even numbers not divisible by 2} \}$ - Empty
- v) $\{ \text{Set of multiples of 3 that are more than 9 and less 15} \}$ - Not empty.
- vi) $\{ \text{Negative Natural numbers} \}$ - ~~Not~~ empty
- vii) $\{ \text{Integers less than 5} \}$ - Not empty