

Exercise - 10 - (D)

- 1) (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) (i) set of counting numbers between 5 and 6 - empty set
 (ii) set of odd numbers between 7 and 9 ^{not empty set}
 (iii) set of odd numbers between 7 and 8 - empty set
 (iv) set of even numbers that are not divisible by 2 - empty set
 (v) $\{0\}$ - not empty set

- 3) (i) $\{3, 5, 7\}$ and $\{5, 3, 7\}$ - equal sets
 (ii) $\{8, 6, 10, 12\}$ and $\{3, 2, 4, 6\}$ - equivalent sets
 (iii) $\{7, 72, 12\}$ and $\{1, 2, 7\}$ - equal sets
 (iv) $\{2, 4, 6, 8, 10\}$ and $\{a, b, d, e, m\}$ - equivalent sets

- 4) (i) set of integers - infinite
 (ii) $\{\text{Multiples of 5}\}$ - infinite
 (iii) $\{\text{Fractions between 1 and 2}\}$ - 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 the 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) $\{\text{Number of points in a line segment 4 cm long}\}$ - infinite

- 5) (i) $\{\text{Prime numbers divisible by 2}\}$ - not empty set
 (ii) $\{\text{Negative natural numbers}\}$ - empty set

- (i) {Woman with height 5 metre} - empty
- (ii) {Integers less than 5} - not empty
- (iii) "prime numbers" between 17 and 23 - not empty
- (iv) set of even numbers not divisible by 2 - ~~not~~ empty
- (v) set of multiples of 3 that are more than and less than 15 - not empty