

Ch-10 Sets

Exercise - 10B

2) If set $B = \{4, 6, 8, 10, 12, 14\}$, state which of the following statements are correct or wrong:-

i) $5 \in B$ Wrong $\rightarrow 5 \notin B$

ii) $12 \in B$ True

iii) $14 \in B$ True

iv) $9 \in B$ Wrong $\rightarrow 9 \notin B$

v) B is the set of even numbers between 2 and 16. Correct

vi) 4, 6 and 10 are the members of the set B . Correct

3) State whether true or false:-

i) Sets $\{4, 9, 6, 2\}$ and $\{6, 2, 4, 9\}$ are not the same. False

ii) Sets $\{1, 0, 3, 9, 4\}$ and $\{4, 0, 1, 9, 3\}$ are the same. True

iii) Sets $\{5, 4\}$ and $\{4, 5, 5, 4\}$ are not the same. False

iv) Sets $\{8, 3\}$ and $\{8, 3, 3\}$ are the same. True

v) Collection of vowels used in the word "Allabhad" forms a set. True

vi) If P is the set of letters in the word "Roop".

; then $P = \{p, o, r\}$ True

vii) If M is the set of letters used in the word 'Mumbai', then :- $M = \{m, u, b, a, i\}$ True

Exercise - 10 C

4) Write each of the following sets in Roster Form and also in Set-Builder Form.

i) Set of all natural numbers that can divide 24 completely.

Ans $A = \{1, 2, 3, 4, 6, 8, 12, 24\}$

$B = \{x : x \text{ is the } \overset{\text{set of}}{\text{natural numbers that can divide 24}}\}$

ii) Set of odd numbers between 20 and 35.

Ans $C = \{21, 23, 25, 27, 29, 31, 33\}$

$D = \{x : x \text{ is the } \overset{\text{set of}}{\text{odd numbers between 20 and 35}}\}$

iii) Set of letters used in the word 'CALCUTTA'.

Ans $E = \{c, a, l, u, t\}$

$F = \{x : x \text{ is the } \overset{\text{set of}}{\text{letters used in the word 'CALCUTTA'}}\}$

iv) Set of names of the first five months of a year.

Ans G = {January, February, March, April, May} \mathbb{Z}
 $H = \{x : x \text{ is the first five months of the year}\}$

v) Set of all two-digit numbers that are perfect squares as well.

Ans I = {16, 25, 36, 49, 64, 81} \mathbb{Z}
 $J = \{x | x \text{ is the set of all two digit numbers that are perfect squares as well of } 1-9\}$

v) Write in Roster Form, the set of :-

i) the first four odd natural numbers each divisible by 5.

Ans K = {5, 15, 25, 35} \mathbb{Z}

between

ii) the counting numbers each of 15 and 35, each of which is divisible by 6.

Ans L = {18, 24, 30} \mathbb{Z}

iii) the names of the last three days of a week.

Ans M = {Friday, Saturday, Sunday} \mathbb{Z}

iv) the names of the last four months of the year.

Ans N = {September, October, November, December} \mathbb{Z}