

HW
29/9/21

Ch-10
Sets

Exercise 10 (B)



2- If Set $B = \{4, 6, 8, 10, 12, 14\}$, state which of the following statements are correct and which are wrong.

i) $5 \in B$

Ans: It's wrong.

Correct ans: $5 \notin B$

iii) $14 \in B$

Ans: Correct

ii) $12 \in B$

Ans: Correct

iv) $9 \in B$

Ans \rightarrow Wrong

Correct ans $\rightarrow 9 \notin B$

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

Ans: Correct.

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

Ans: Correct.

3- State whether True or False:

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

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

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

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

v) Collection of vowels used in the word 'Allahabad' forms a

set. \rightarrow True

vi) If P is the set of letters in the word 'ROOP'; then $P = \{p, o, r\}$. \rightarrow True

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

Exercise - 10 (c)

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

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

Ans. Roster form $\rightarrow \{1, 2, 3, 4, 6, 8, 12, 24\}$

Set-Builder form $\rightarrow \{x : x \text{ is a factor of } 24\}$

ii) Set of odd numbers between 20 and 35.

Ans. Roster form $\rightarrow \{21, 23, 25, 27, 29, 31, 33\}$

Set-Builder $\rightarrow \{x : x \text{ is an odd number between } 20 \text{ and } 35\}$

iii) Set of words used in 'CALCUTTA'

Ans. Roster form $\rightarrow \{c, a, l, t, a\}$

Set-Builder $\rightarrow \{x : x \text{ is a letter in the word 'CALCUTTA'}\}$

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

Ans Roster form \rightarrow {January, February, March, April, May}
Set-builder \rightarrow $\{x : x \text{ is a name of first five months of a year}\}$

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

Ans Roster form \rightarrow {16, 25, 36, 49, 64, 81}
Set-Builder \rightarrow $\{x : x \text{ is a perfect square two-digit number}\}$

5. Write, in the Roster Form, the set of :

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

Ans {5, 15, 25, 35}

ii) the counting numbers between 15 and 35; each divisible by 6.

Ans {18, 24, 30}

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

Ans {Friday, Saturday, Sunday}

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

Ans {September, October, November, December}

x ——— o ——— x ——— o ——— x ——— o