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SWARIT NATH

VIB, 3533



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) $5 \in B$ - Wrong, as $5 \notin B$
- (ii) $12 \in B$ - Correct
- (iii) $14 \in B$ - Correct
- (iv) $9 \in B$ - Wrong, as $9 \notin B$
- (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 $\{0, 1, 3, 9, 4\}$ and $\{4, 0, 1, 3, 9\}$ are the same. (TRUE)
- (iii) Sets $\{5, 4\}$ and $\{5, 4, 4, 5\}$ are not the same. (FALSE)
- (iv) Sets $\{8, 3\}$ and $\{3, 3, 8\}$ are the same. (TRUE)
- (v) Collection of vowels used in the word 'ALLAHABAD' 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)

1. 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.

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

$$A = \{x : x \text{ is a natural number that divides } 24 \text{ completely}\}$$

(ii) Set of odd numbers between 20 and 35.

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

$$B = \{x : x \text{ is an odd number between } 20 \text{ and } 35\}$$

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

$$C = \{c, a, l, u, t\}$$

$$C = \{x : x \text{ is a letter used in the word } \text{CALCUTTA}\}$$

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

$$D = \{\text{January, Feb, March, April, May}\}$$

$$D = \{x : x \text{ is name of first five months of a year}\}$$

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

$$E = \{16, 25, 36, 49, 64, 81\}$$

$$E = \{x : x \text{ is a two-digit perfect square number}\}$$

5. Write in Roster Form, the set of :

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

Ans. $A = \{ 5, 15, 25, 35 \}$

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

Ans. $B = \{ 18, 24, 30 \}$

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

Ans. $C = \{ \text{Friday, Saturday, Sunday} \}$

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

Ans. $D = \{ \text{Sept, Oct, Nov, Dec} \}$