

HW
9/7/21

Ex-10 'c'

Date _____
Page 76

i) The set of five numbers each of which is divisible by 3.
ans) $\{3, 6, 9, 12, 15\}$

ii) The set of integers between -4 and 4.
ans) $\{-3, -2, -1, 0, 1, 2, 3\}$

iii) $\{x : x \text{ is a letter in the word 'SCHOOL'}\}$
ans) $\{s, c, h, o, o, l\}$

iv) $\{x : x \text{ is an odd natural number between 10 and 20}\}$
ans) $\{11, 13, 15, 17, 19\}$

v) $\{\text{Vowels used in the word 'AMERICA'}\}$
ans) $\{a, e, i\}$

vi) $\{\text{Consonants used in the word 'MADRAS'}\}$
ans) $\{m, d, r, s\}$

2) i) All prime numbers between 1 and 20.
ans) $\{2, 3, 5, 7, 11, 13, 17, 19\}$

ii) The squares of the first four natural numbers.
ans) $\{1, 4, 9, 16\}$

iii) Even numbers between 1 and 9.
ans) $\{2, 4, 6, 8\}$

iv) The first eight letters of the English alphabet.
ans) $\{a, b, c, d, e, f, g, h\}$

v) The letters of the word 'BASKET'.
ans) $\{b, a, s, k, e, t\}$

vi) Four cities of India whose names start with the letter J.
ans) {Jamshedpur, Jamnagar, Jaipur, Jammu}

vii) Any four closed geometrical figures.
ans) {Triangle, Quadrilateral, Pentagon, Hexagon} { Δ , \square , \diamond , \square }

viii) Vowels used in the word 'MONDAY'.
ans) {e, a}

ix) Single digit numbers that are perfect squares as well.
ans) {0, 1, 4, 9}

3) i) {2, 4, 6, 8, 10}

ans) { $x : x$ is an even natural number less than 12}

ii) {2, 3, 5, 7, 11}

ans) { $x : x$ is a prime number less than 12}

iii) {January, June, July}

ans) { $x : x$ is a month whose name starts with the letter J}

iv) {a, e, i, o, u}

ans) { $x : x$ is a vowel in English alphabet}

v) {Tuesday, Thursday}

ans) { $x : x$ is a day of the week whose name starts with letter 'T'}

vi) {1, 4, 9, 16, 25}

ans) { $x : x$ is a square of natural numbers less than 6}

vii) {5, 10, 15, 20, 25, 30}

ans) { $x : x$ is a natural number divisible by 5 upto 30}

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Exercise - 10-(c)

i) Roster Form

Set of all natural numbers that can divide 24 completely.

ans) Roster Form

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

Set-builder Form

$$= \{x : x \text{ is a } \begin{matrix} \text{whole} \\ \text{natural} \end{matrix} \text{ number, that divides completely } 24\}$$

ii) Set of odd numbers between 20 and 35.

ans) Roster Form

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

Set-builder Form

$$= \{x : x \text{ is a } \begin{matrix} \text{odd} \\ \text{whole} \end{matrix} \text{ number between 20 and 35}\}$$

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

ans) Roster Form

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

Set-builder Form

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

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

ans) Roster Form

$$\{\text{January, February, March, April, May}\}$$

Set-builder Form

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

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

ans) Roster Form

{16, 25, 36, 49, 64, 81}

Set-Builder Form

{ x : x is a 2-digit whole number that is a perfect square}

5) 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 of which is 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}