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EXERCISE 10 (c)

1) Write each of the following sets in the Rostere Form:

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

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

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

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

v) {Vowels used in the word 'AMERICA'}
{a, e, i}

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

2) Write each given set in the Roster Form:

i) All prime numbers between 1 and 20.

{2, 3, 5, 7, 11, 13, 17, 19}

ii) The squares of the first four natural numbers.

$\{1^2, 2^2, 3^2, 4^2\} = \{1, 4, 9, 16\}$

iii) Even numbers between 1 and 9.

{2, 4, 6, 8}

iv) The first eight letters of the English alphabet.

{a, b, c, d, e, f, g, h}

v) The letters of the word 'BASKET'.

{b, a, s, K, e, t}

vi) Four cities of India whose names start with the letter J.

{Jaipur, Jodhpur, Jalandhar, Jaisalmer}

vii) Any four closed geometrical figures.

{▭, ⬠, ○, △}

viii) Vowels used in the word 'MONDAY'.

{o, a}

ix) Single digit numbers that are perfect squares ass well.

{0, 1, 4, 9}

3) Write each given set in the Set-Builder Form:

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

{x : x is a set of even natural numbers between 1-10}

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

{x : x is a prime no.s less than 12}

iii) {January, June, July}

{x : x is a months of the year which starts with J}

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

{x : x are the vowels of english alphabets}

v) {Tuesday, Thursday}

{x : x are the days of a week which starts with T}

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

{x : x is a perfect squares natural number upto 25}

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

{x : x is a natural no. divisible by 5}

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 devide 24 completely.

ii) Set of odd numbers between 20 and 35.

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

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

v) Set of all two digits numbers that are perfect square as well.

Solution:

i) $\{1,2,3,4,6,8,12,24\}$; $\{x : x$ is a natural no. that divides 24 completely$\}$

ii) $\{21,23,25,27,29,31,33\}$; $\{x : x$ is an odd no. between 20 and 35$\}$

iii) $\{c,a,l,cut\}$; $\{x : x$ is a letter used in the word 'CALCUTTA$\}$

iv) {January, February, March, April, May}; $\{x : x$ is name of first five months of a year$\}$

v) $\{16,25,36,49,64,81\}$; $\{x : x$ is a perfect square two digit no.$\}$.

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

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

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

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

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

Solution:

i) $\{5, 15, 25, 35\}$

ii) $\{18, 24, 30\}$

iii) {Friday, Saturday, Sunday}

iv) {September, October, November December}