

HW
9.7.2022

Chapter-10 Set
Exercise 10 C

1) Write each of the following sets in the Roster form:

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: $\{s, c, h, o, l\}$

iv) $\{x : x \text{ is an odd natural number between 10 and 20}\}$

Ans: $\{11, 13, 15, 17, 19\}$

v) $\{x : x \text{ is a vowel used in the word 'America'}\}$

Ans: $\{a, e, i\}$

vi) $\{x : x \text{ is a consonant used in the word 'Madras'}\}$

Ans: $\{m, d, r, s\}$

2) Write each given set in the Roster form:

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

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 name start with the letter J.
Ans: $\{Jamshedpur, Jamnagar, Jammu, Jaipur\}$

vii) Any four closed geometrical figures.
Ans: $\{Rectangle, square, circle, triangle\}$

viii) Vowels used in the word 'Monday'.
Ans: $\{o, a\}$

ix) Single digit number that are perfect square or well.
Ans: $\{0, 1, 4, 9\} = 0 = 0^2, 1 = 1^2, 4 = 2^2 \text{ and } 9 = 3^2$

3. Write each given sets in the Set-Builder Form:

i) $\{2, 4, 6, 8, 10\}$
Ans: $\{x: x \text{ is an even natural number less than } 12\}$

ii) $\{2, 3, 5, 7, 11\}$
Ans: $\{x: x \text{ is a prime number less than } 12\}$

iii) $\{January, June, July\}$
Ans: $\{x: x \text{ is a month whose name starts with letter J}\}$

iv) $\{a, e, i, o, u\}$
Ans: $\{x: x \text{ is a vowel in English alphabet}\}$

v) $\{\text{Tuesday, Thursday}\}$
Ans: $\{x: x \text{ is a day of week whose name starts with letter T}\}$

vi) $\{1, 4, 9, 16, 25\}$
Ans: $\{x: x \text{ is a perfect square natural number upto } 25\}$

vii) $\{5, 10, 15, 20, 25, 30\}$
Ans: $\{x: x \text{ is a natural number upto } 30 \text{ and divisible by } 5\}$

Exercise 11

A. 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: $\{1, 2, 3, 4, 6, 8, 12, 24\}$ is all the natural numbers that can divide 24 completely.

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

Ans: $\{21, 23, 25, 27, 29, 31, 33\}$ is all the odd numbers between 20 and 35.

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

Ans: $\{C, A, L, U, T, T, A\}$ is the letters in word CALCUTTA.

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

Ans: $\{January, February, March, April, May\}$ is the first five months of a year.

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

Ans: $\{16, 25, 36, 49\}$

$\{x^2 \mid x \text{ is all the perfect squares of two digit.}\}$

5. Write in 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 of which is divisible by 6.

Ans: $\{18, 24, 30\}$

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

Ans: $\{Friday, Saturday, Sunday\}$

Ans

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

Ans: $\{September, October, November, December\}$