

Ww
Date

ch-10. Sets

ex 10(c)

~~Ex 10~~

i) 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- $\{S, c, h, o, o, l\}$

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) 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 first four natural numbers.

Ans- $\{1^2, 2^2, 3^2, 4^2\}$

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- $\{Jabal, Jabera, Jabalpur, Jagan, Jalkal\}$

vii) Any four closed geometrical figures.

Ans- $\{Square, Octagon, Nonagon, Decagon\}$

viii) Vowels used in the word 'Monday'.

Ans- $\{o, a\}$

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

Ans- $\{0, 1, 4, 9\}$, $0=0^2$, $1=1^2$, $4=2^2$, $9=3^2$

s) Write each given set 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- $\{x : x \text{ is a }^{th} \text{ month whose name starts with } J\}$

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

Ans- $\{x : x \text{ is the first five vowels of english alphabets}\}$

v) $\{Tuesday, Thursday\}$

Ans- $\{x : x \text{ is the days whose name starts with } T\}$

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

Ans- $\{x : x \text{ is a perfect square natural numbers upto } 25\}$

viii) $\{5, 10, 15, 20, 25, 30\}$

Ans- $\{x : x \text{ is natural number upto } 30\}$

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- $\{1, 2, 3, 4, 6, 8, 12, 24\}$ - Roster Form

$\{x : x \text{ is the natural number that can divide } 24 \text{ completely}\}$ - Set Builder Form

ii) set of odd numbers between 20 and 35.

Ans- $\{21, 23, 25, 27, 29, 31, 33\}$ - Roster Form

$\{x : x \text{ is the odd numbers between } 20 \text{ and } 35\}$ - Set Builder Form

iii) set of letters used in the word 'CULCUTTA'.

Ans- $\{c, u, l, t, a\}$ - Roster Form

$\{x : x \text{ is the letters used in the word 'CULCUTTA'}\}$ - Set builder form

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

Ans- $\{\text{January, February, March, April, May}\}$ - Roster Form

$\{x : x \text{ is the names of the first five months of a year}\}$ - Set-builder form

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

Ans. $\{16, 25, 36, 49, 64, 81\}$ - Roster form

Ex: x is ~~the~~ the two-digit nos that are perfect squares as well. $\{$ - Set Builder form

5.8) Write, in the Roster form, the set of:

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

Ans. $\{1, 3, 5, 7\}$ - Roster

ii) The counting nos 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. $\{\text{Friday, Saturday, Sunday}\}$

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

Ans. $\{\text{September, October, November, December}\}$