

Ex-10 C

1. (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:  $\{-4, -3, -2, -1, 0, 1, 2, 3, 4\}$

(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)  $\{ \text{Vowels used in the word 'AMERICA'} \}$

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

(vi)  $\{ \text{Consonants used in the word 'MADRAS'} \}$

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

2. Write each given set in 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:  $\{1, 2, 3, 4\}$  First four natural numbers

Set =  $\{1, 4, 9, 16\}$  (Ans)

(iii) Even numbers between 1 and 9.

Ans:  $\{2, 4, 6, 8\}$

(iv) The first eight letters of English alphabet

Ans = ~~The~~ {a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z}

(v) The letters of the word 'basket' are {b, a, s, k, e, t}

(vi) Four cities of India whose name start with the letter J:

Ans = {Jaipur, Jharkhand, Jodhpur, Jamalpur}

(vii) Any four closed geometrical figures:

{rectangle, square, hexagon, pentagon}

(viii) Vowels used in the word 'MONDAY'

Ans = {a, o}

(ix) Single digit numbers that are perfect squares as well:

{1, 4, 9}

3. Write each given set in the set-builder form.

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

Ans: X are the first five multiples of 2

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

Ans: X is a prime number less than 12

(iii) {January, June, July}

Ans: X is a name of month starting with letter J

(iv) {9, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20}

(v) {Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday}

(vi) {1, 4, 9, 16, 25, 36, 49, 64, 81, 100}

(vii) {5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100}

4. Write the set-builder form of the following sets:  
{table, chair, bed, sofa, cupboard, door, window, wall, floor, ceiling, roof, pillar, staircase, fan, light, switch, plug, socket, wire, cable, switchboard, fuse, transformer, generator, motor, pump, fan, light, switch, plug, socket, wire, cable, switchboard, fuse, transformer, generator, motor, pump}

(i) Set of all divisors of 12  
Ans: {1, 2, 3, 4, 6, 12}

(ii) Set of all prime numbers less than 100  
Ans: {2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97}

(iii) Set of all months starting with letter J  
Ans: {January, June, July}



Let?

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

Ans:  $\{x: x \text{ is a vowel of english alphabet}\}$

me

(v)  $\{\text{Tuesday, Thursday}\}$

Ans:  $\{x: x \text{ is a name of day starting with letter T}\}$

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

Ans:  $\{x: x \text{ is a perfect square natural number less than } 26\}$

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

Ans:  $\{x: x \text{ are the first six multiples of } 5\}$

agon?

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4. Write each of the following in Roster (tabular) form and also in set-builder form:

ect

(i) Set of all natural numbers that can divide 24 completely.

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

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

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

$\{21, 23, 25, 27, 29, 31, 33, 35\}$   
 $\{x: x \text{ is a odd number between } 20 \text{ and } 35\}$

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

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

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

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

{ January, February, March, April, May }

{ xix is a name of the first five months of a year }

(v) Set of all two-digit numbers, that are perfect squares

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

{ xix is a perfect square two-digit number }

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

{ 5, 15, 25, 35 }

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

{ 18, 24, 30 }

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

{ Friday, Saturday, Sunday }

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

{ October, November, December, January }