

Set of all odd natural numbers less than 15

Description method {odd natural no. less than 15}
 Roster $\{1, 3, 5, 7, 9, 11, 13\}$
 Set builder $\{x : x \text{ is an odd natural no. less than } 15\}$

Ex 10(C)

1) Write each of the following sets as the Roster Form

i) The set of five no. each of which is divisible by 2

Ans $\{3, 6, 9, 12, 15\}$

Ans

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

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

3) Write each given set in the set-builder Form

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

Ans $\{x : x \text{ is all even nos. from } 2 \text{ to } 10\}$

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

Ans $\{x : x \text{ is all prime no. from } 2 \text{ to } 11\}$

iii) $\{\text{January, June, July}\}$

Ans $\{x : x \text{ is all the months starting from letter 'J'}\}$

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

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

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

Ans $\{x : x \text{ is all the days of the week starting from the letter 'T'}\}$

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

Ans (Roster form) $\{1, 2, 3, 4, 6, 8, 12, 24\}$;

Builder form $= \{x : x \text{ is a natural number which divides } 24 \text{ completely}\}$

A) iii) Roster form is $\{c, a, b, s, t\}$
 A Set builder form $\{x : x \text{ is a letter of the word } AC, U, L, A, T, A, T\}$

v) Set of all 2-digit numbers that are perfect squares as well.

Ans) $\{16, 25, 36, 49, 64, 81\}$ Roster
 $\{x : x \text{ is a perfect 2 digit } \overset{\text{perfect}}{\text{square}}\}$ Set builder

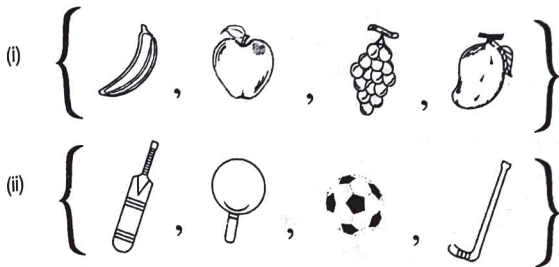
5) Write, in Roster form, the set of :

i) The first four odd natural numbers each divisible by 5.
 Ans) $\{5, 15, 25, 35\}$

ii) The counting 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 a week.
 Ans) $\{\text{Friday, Saturday, Sunday}\}$

Instead of showing (drawing) these pictures inside a circle, a rectangle, etc., we can also draw them within a pair of curly braces (brackets).



The two sets shown above by pictures can also be expressed by writing their names as shown below :

- (i) { banana, apple, grapes, mango }.
 (ii) { cricket bat, tennis racket, football, hockey }.

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.
 (ii) The set of integers between -4 and 4 .
 (iii) $\{x : x \text{ is a letter in the word 'SCHOOL'}\}$
 (iv) $\{x : x \text{ is an odd natural number between } 10 \text{ and } 20\}$
 (v) { Vowels used in the word 'AMERICA' }
 (vi) { Consonants used in the word 'MADRAS' }

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. $\{1^2, 2^2, 3^2, 4^2\}$
 (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. $\{Jaipur, Jhansi, Jodhpur, Jalandhar\}$
 (vii) Any four closed geometrical figures. $\{\Delta, \square, \circ, \square\}$
 (viii) Vowels used in the word 'MONDAY'. $\{e, a\}$
 (ix) Single digit numbers that are perfect squares as well. $\{0, 1, 4, 9\}$ as $0 = 0^2$

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

- (i) $\{2, 4, 6, 8, 10\}$ (ii) $\{2, 3, 5, 7, 11\}$
 (iii) { January, June, July } (iv) $\{a, e, i, o, u\}$
 (v) { Tuesday, Thursday } (vi) $\{1, 4, 9, 16, 25\}$
 (vii) $\{5, 10, 15, 20, 25, 30\}$