



### Sets Ex 1.3 Q5

Two finite sets are said to be equivalent if they have the same number of elements.  
As  $A$  and  $C$  have same number of elements, and  $B$  and  $D$  also have same number of elements.

$\therefore A$  is equivalent to  $C$  &  $B$  is equivalent to  $D$ .

### Sets Ex 1.3 Q6

(i)

Two sets  $A$  and  $B$  are said to be equal if every elements of  $A$  is an elements of  $B$  and vice-versa.

We have,  $A = \{2, 3\}$

$$\begin{aligned} \text{and } B &= \{x : x \text{ is a solution of } x^2 + 5x + 6 = 0\} \\ &= \{x : x^2 + 3x + 2x + 6 = 0\} \\ &= \{x : x(x+3) + 2(x+3) = 0\} \\ &= \{x : (x+3)(x+2) = 0\} \\ &= \{x : x = -2, -3\} \\ &= \{-2, -3\} \end{aligned}$$

Hence  $A \neq B$ .

(ii)

$$A = \{W, O, L, F\}$$

$$B = \{F, O, L, W\} \quad [\because \text{repetition is not allowed}]$$

$$= \{W, O, L, F\} \quad [\text{The order in which the elements are written does not matter.}]$$

Hence  $A = B$

### Sets Ex 1.3 Q7

$$A = \{0, a\}$$

$$B = \{1, 2, 3, 4\}$$

$$C = \{4, 8, 12\}$$

$$D = \{3, 1, 2, 4\}$$

$$= \{1, 2, 3, 4\}$$

$$E = \{1, 0\}$$

$$F = \{8, 4, 12\}$$

$$= \{4, 8, 12\}$$

$$G = \{1, 5, 7, 11\}$$

$$H = \{a, b\}$$

The sets  $B$  and  $D$  are equal.

The sets  $C$  and  $F$  are equal.

As  $A, E$  and  $H$  have same number of elements so they are equivalent.

As  $B, D$  and  $G$  have same number of elements, so they are equivalent

Also  $C$  and  $F$  have same number of elements, so they are equivalent.

### Sets Ex 1.3 Q8

$$A = \{1, 2\}$$

$$B = \{1, 2\}$$

$$C = \{3, 1\}$$

$$D = \{1, 3\} \quad [\because \text{the odd natural numbers less than 5 are 1 and 3}]$$

$$E = \{1, 2\} \quad [\because \text{repetition is not allowed}]$$

$$F = \{1, 3\} \quad [\because \text{repetition is not allowed}]$$

$\therefore$   $A, B$  and  $E$  are equal

Also,  $C, D$  and  $F$  are equal

Sets Ex 1.3 Q9

The set formed by distinct letters of the word "CATARACT" are  $\{C, A, T, R\}$ .

The set formed by distinct letters of the word "TRACT" are  $\{T, R, A, C\}$

Hence the two set are equal.

\*\*\*\*\* END \*\*\*\*\*