## 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, $A = \{2, 3\}$

*and* $B = \{x : x \text{ is a solution of } x^2 + 5x + 6 = 0\}$

$= \{x : x^2 + 3x + 2x + 6 = 0\}$

$= \{x : x(x + 3) + 2(x + 3 = 0)\}$

$= \{x : (x + 3)(x + 2) = 0\}$

$= \{x : x = -2, -3\}$

$= \{-2, -3\}$

Hence $A \neq B$.

(ii)

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

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

$= \{W, O, LF\}$ [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

$A = \{1, 2\}$

$B = \{1, 2\}$

$C = \{3, 1\}$

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

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

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

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

Aslo, $C, D$ 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 **********