

$$44 \quad \{ -7, -3, -1, 0, 5, 6, 8, 9 \}$$

$$\text{ii} \quad A = \{ x : x < 2 \}$$
$$= \{ -7, -3, -1, 0 \}$$

$$\text{iii} \quad B = \{ x : -4 < x < 6 \}$$
$$= \{ -3, -1, 0, 5 \}$$

$$57 \quad \{ x : x \in \mathbb{N} \text{ and } x < 20 \} = \{ 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 \}$$

$$\text{ii} \quad A = \{ x : x = 3p, p \in \mathbb{N} \} \quad \{ 15, 16, 17, 18, 19 \}$$

$$x = 3p$$

$$3 \times 1 = 3$$

$$3 \times 2 = 6$$

$$3 \times 3 = 9$$

$$3 \times 4 = 12$$

$$3 \times 5 = 15$$

$$3 \times 6 = 18$$

$$A = \{ 3, 6, 9, 12, 15, 18 \}$$

$$\text{ii} \quad B = \{ y : y = 2m + 3, m \in \mathbb{N} \}$$

$$m = \{ 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 \}$$

$$2 \times 1 + 3 = 5 \quad 2 \times 4 + 3 = 11 \quad 2 \times 7 + 3 = 17$$

$$2 \times 2 + 3 = 7 \quad 2 \times 5 + 3 = 13 \quad 2 \times 8 + 3 = 19$$

$$2 \times 3 + 3 = 9 \quad 2 \times 6 + 3 = 15 \quad 2 \times 9 + 3 = 21$$

$$B = \{ 5, 7, 9, 11, 13, 15, 17, 19 \}$$

$$\text{iii} \quad C = \{ x : x \text{ is divisible by } 4 \}$$

$$C = \{ 4, 8, 12, 16 \}$$

64 ~~Q. 64~~
 $\{x : x^2 - 9x - 10 = 0\}$

$$= x^2 - 9x - 10 = 0$$

$$= x^2 - 10x + 1x - 10 = 0$$

$$= x(x-10) + 1(x-10) = 0$$

$$= (x-10)(x+1) = 0$$

$$= x-10=0 \quad x+1=0$$

$$x=10 \quad x=-1$$

$$\{10, -1\}$$

$$2^0 - 1 = 2^2 - 1 = 2^4 - 1 = 3$$

$$\emptyset, \{10\}, \{-1\}$$

74 Given

$$A = \{\text{Triangles}\}$$

$$B = \{\text{Isosceles triangles}\}$$

$$C = \{\text{Equilateral triangle}\}$$

(i) $A \subset B$

Ans \rightarrow It is false because each triangle is not isosceles.

ii) $B \subset A$

Ans \rightarrow It is true because isosceles is a type of triangle.

iii) $C \subset B$

Ans \rightarrow It is true because each ~~isosceles~~ equilateral ~~A~~ triangle is isosceles.

iv) $B \subset A$

Ans \rightarrow It is true because each isosceles triangle is one of the type of triangle.

v) $C \subset A$

Ans \rightarrow It is true because equilateral triangle is one of the triangle.

vi) $C \subset B \subset A$

Ans \rightarrow It is true because ~~is~~ each equilateral triangle is isosceles and isosceles is a type of ~~A~~ triangle.

8) Given

$A = \{\text{Quadrilateral}\}$

$B = \{\text{Rectangle}\}$

$C = \{\text{Square}\}$

$D = \{\text{Rhombus}\}$

i) $B \subset C$

It is false because Rhombus \neq Square

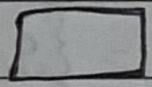
ii) $D \subset B$

It is false because Rhombus \neq Rectangle

iii) $C \subset B \subset A$

It is true because Square = Rhombus and Rectangle = Quadrilateral

iv) $D \subset A$

It is true because Rhombus is one of the 

v) $B \supset C$

It is true because Square = Rectangle

vi) $A \supset B \supset$

It is false because Rhombus \neq Rectangle