

## Exercise 6(A)

$$i) A_1 = \{x : 2x + 3 = 11\}$$

$$\therefore 2x + 3 = 11$$

$$\Rightarrow 2x = 11 - 3$$

$$\Rightarrow 2x = 8$$

$$\Rightarrow x = \frac{8}{2}$$

$$\Rightarrow x = 4$$

$$\therefore A_1 = 4$$

$$ii) A_2 = \{x : x^2 - 4x - 5 = 0\}$$

$$\therefore x^2 - 4x - 5 = 0$$

$$\Rightarrow x^2 - 5x + x - 5 = 0$$

$$\Rightarrow x(x-5) + 1(x-5) = 0$$

$$\Rightarrow (x-5)(x+1) = 0$$

$$\therefore x-5=0$$

$$\Rightarrow x=5$$

$$x+1=0$$

$$\Rightarrow x=-1$$

$$\therefore A_2 = \{5, -1\}$$

$$iii) A_3 = \{x : x \in \mathbb{Z}, -3 < x < 4\}$$

$$\therefore -3 < x < 4$$

$$\Rightarrow x = -3, -2, -1, 0, 1, 2, 3$$

$$\therefore A_3 = -3, -2, -1, 0, 1, 2, 3$$

PV)  $A_7 = \{x : x \text{ is a two digit number and sum of the digits of } x \text{ is } 7\}$

$\therefore x$  is a two digit ~~two~~ number and sum of digits of  $x$  is 7

$\Rightarrow x = 16, 25, 34, 43, 52, 61, 70$

$\therefore A_7 = 16, 25, 34, 43, 52, 61, 70$