

EXERCISE 6.13

Find the cardinal number of the following sets.

$$A_1 = \{-2, -1, 1, 3, 5\}$$

Cardinal number of set $A_1 = 5$

$$A_2 = \{x \in \mathbb{N} \text{ and } 3 \leq x \leq 7\}$$

$$= \{3, 4, 5, 6, 7\}$$

Cardinal number of set $A_2 = 5$

$$A_3 = \{p \in \mathbb{P} \text{ and } 2p - 3 < 8\}$$

$$2p - 3 < 8$$

$$\Rightarrow 2p - 3 + 3 < 8 + 3$$

p dividing 3 to both sides

$$\Rightarrow 3b - 1 + 1 \leq 2 + 1$$

$$\Rightarrow 3b \leq 3$$

(Adding 1 to both sides)

$$\Rightarrow b \leq \frac{3}{3}$$

$$\Rightarrow b \leq 1$$

(Dividing both sides by 3)

$$\therefore -2 < b < 1$$

\therefore Given set $A_2 = \{-1, 0, 1\}$
 \therefore Cardinal number of set $A_2 = 3$

Q2) If $P = \{P : P \text{ is a letter in the word "PERMANENT"}\}$

Find $n(P)$.

Ans $\rightarrow P = \{P : P \text{ is a letter in the word "PERMANENT"}\}$

$n(P) = \{P, E, N, M, A, U, N, T\}$

$$n(P) = 7$$