

IV

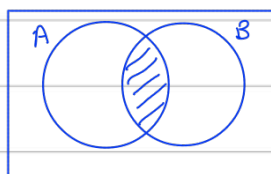
Sets

Suppose two sets :- $A = \{1, 2, 3, 4, 5, 6, 7, 8\}$
 $B = \{3, 4, 5, 6, 7\}$

Following are some diff. set operations.

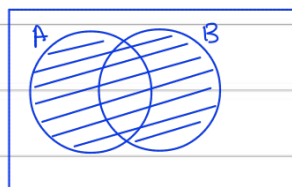
a) Intersection : (\cap)

$$(A \cap B) = \{3, 4, 5, 6, 7\}$$



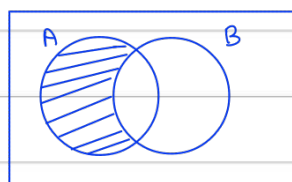
b) Union (\cup) :-

$$(A \cup B) = \{1, 2, 3, 4, 5, 6, 7, 8\}$$



c) Difference

$$(A - B) = \{1, 2, 8\}$$



d) Subset : (\subset)

$$\text{is } A \subset B \rightarrow \text{False}$$

$$\text{is } B \subset A \rightarrow \text{True}$$

$$\text{is } A \not\subset B \rightarrow \text{True}$$

$$8 \in A \rightarrow (X); \{8\} \subset A (\checkmark)$$

e) Superset :- (\supset)

$$\text{is } (A \supset B) \rightarrow \text{True}$$

$$\text{is } (B \supset A) \rightarrow \text{False}$$

f) Belong to (\in) :

$$8 \in A \rightarrow \text{True}$$

$$8 \in B \rightarrow \text{False}$$

g) Not belongs to (\notin) :

$$8 \notin A \rightarrow \text{False}$$

$$8 \notin B \rightarrow \text{True}$$