

# SETS

## PERIOD -7

**SUBJECT : MATHEMATICS**  
**CHAPTER NUMBER: 6**  
**CHAPTER NAME :SETS**

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**CHANGING YOUR TOMORROW**

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# Learning outcome

1. Students will be able to know about sets and representation of a set
2. Students will be able to know about Subset, Proper subset, Super set, Universal set and complement of a set
3. Students will use a **Venn diagram** to compare and contrast information and recognize relationships between concepts

$$A = (5, 6, 7, 8, 9)$$

$$B = (4, 5, 6, 7)$$

$$C = (1, 2, 3, 4, 5)$$

$$(i) A \cup B = (4, 5, 6, 7, 8, 9)$$

$$(A \cup B) \cup C = (1, 2, 3, 4, 5, 6, 7, 8, 9)$$

$$(ii) B \cup C = (1, 2, 3, 4, 5, 6, 7)$$

$$A \cup (B \cup C) = (1, 2, 3, 4, 5, 6, 7, 8, 9)$$

$$(iii) A \cap B = (5, 6, 7)$$

$$(A \cap B) \cap C = (5)$$

$$(iv) B \cap C = (4, 5)$$

$$A \cap (B \cap C) = (5)$$

$$(v) (A \cup B) \cup C = (1, 2, 3, 4, 5, 6, 7, 8, 9)$$

$$A \cup (B \cup C) = (1, 2, 3, 4, 5, 6, 7, 8, 9)$$

Yes, these are equal.

$$(vi) (A \cap B) \cap C = A \cap (B \cap C)$$

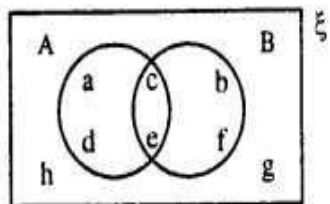
$$\{5\} = \{5\}$$

Yes, these are equal.

2)

From the given diagram find :

- (i)  $A \cup B$                       (ii)  $A' \cap B$   
(iii)  $A - B$                       (iv)  $B - A$   
(v)  $(A \cup B)'$



- (i)  $A \cup B = \{a, c, d, e\} \cup \{b, c, e, f\}$   
 $\Rightarrow A \cup B = \{a, b, c, d, e, f\}$   
(ii)  $A' = \{b, f, g, h\}$   
 $A' \cap B = \{b, f, g, h\} \cap \{b, c, e, f\}$   
 $\Rightarrow A' \cap B = \{b, f\}$   
(iii)  $A - B = \{a, c, d, e\} - \{b, c, e, f\}$   
 $\Rightarrow A - B = \{a, d\}$   
(iv)  $B - A = \{b, c, e, f\} - \{a, c, d, e\}$   
 $= \{b, f\}$   
(v)  $A \cup B = \{a, b, c, d, e, f\}$   
 $\therefore (A \cup B)' = \{h, g\}$

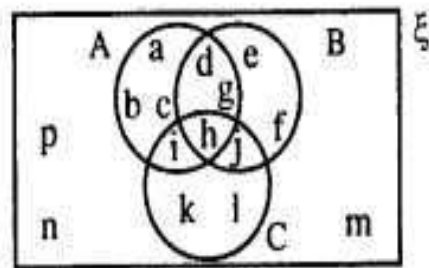
Use the given diagram to find :

(i)  $A \cup (B \cap C)$

(ii)  $B - (A - C)$

(iii)  $A - B$                       (iv)  $A \cap B'$

Is  $A \cap B' = A - B$  ?



# Home assignment

## Exercise 6

**THANKING YOU**  
**ODM EDUCATIONAL GROUP**

