INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2025 - 26

CLASS: 11 SUBJECT: Mathematics DATE: 02/ 05/ 25

LESSON : Sets

LEVEL – 1

1. $A \cup (A \cap B)$ is

[a) A b) B C) AUB d) { }]

2. If $A \subset B$ *and* $B \subset A$, then

[(a) A = { } (b) A = B (c) B= { } (d) A≠ B]

3. If A ∪ $B = A \cap B$, then

[a) $A = \emptyset$ $b) B = \emptyset$ $c) A = B$ $d) A \neq B$]

4. If A = { a, b, c, d, e, f } , B = {c, e, f}, find i) $A \cup B$, $ii) A \cap B$ $iii) A - B$

5. If U = {1, 2, 3, 4, 5, 6, 7} and A= { 1, 2, 4, 6} , find A'.

LEVEL – 2

6. $A' \cap \emptyset =$

[a) A b) U C) A' d) { }]

7. U' ∪ $\emptyset =$

[a) A b) U C) A' d) { }]

8. If U = { 1, 2, 3, ….10} , A = { 2, 3, 6, 7} , B = {2, 6, 4, 8}, and C = { 3, 4, 5, 6} find

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

LEVEL 3

9. If U = { 1, 2, 3, ….10} , A = { 2, 3, 6, 7} and B = {2, 6, 4, 8}, show that

(i) $(A \cup B)' = A' \cap B'$ $(ii) (A \cap B)' = A' \cup B'$

10. Given A = {x: x is a multiple of 3} and B = { x : x is even natural number } are subsets of the universal set U = { x: x c N, x ≤ 15}. Then show that B' - A' = A ∩ B'.

11. Write all the subsets of

i) $\emptyset$ ii) { p, q}

12. Write in set-builder form (a) (– 2 , 4] (b) [-2 , 6)

LEVEL 4

13. Let A = $\{x: x \in R, x \geq 4\} and\ B = \{x: x \in R, x < 5\}, then\ A \cap B$ is

[(a) (4, 5] (b) (4, 5) (c) [4, 5) (d) [4, 5]]

14. For any two sets A and B, prove that A′ - B′ = B – A.

15. For any two sets A and B show that , A = $(A \cap B) \cup (A - B)$