

HOME TEST CLASS 9

I) Answer the following

10 x 2.5 = 25

1) If $A = \{1, 2, 3, 4, 5, 7, 9, 11\}$ find $n(A)$

2) $A = \{x: x \in \mathbb{N}, 4 \leq x \leq 8\}$ and $B = \{4, 5, 6, 7, 8\}$ equal sets?

3) find the number of subsets and the number of proper subsets of a set $x = \{a, b, c, x, y, z\}$

4) write down the power set of the following Sets

(i) $A = \{a, b\}$ (ii) $B = \{p, q, r, s\}$

5) $A = \{2, 3\}$ and $C = \{\}$ find $(A \cap C)$

6) Draw Venn diagram

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

7) Write Commutative Property of sets.

8) If $A = \{6, 7, 8, 9\}$ and $B = \{8, 10, 12\}$ find

9) $n(A) = 30$, $n(B) = 45$, $n(A \cup B) = 65$ then Find $n(A \cap B)$ and $n(A - B)$

(10) $U = \{1, 2, 3, 4, 5, 6, 7, 8, 240\} = \{1, 3, 5\}$ $B = \{2, 3, 5, 6\}$ then find a) A' (ii) B'

II) Answer the following question

5x5=25

1) verify $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$ use Venn diagrams

2) Verify $A - (B \cup C) = (A - B) \cap (A - C)$

3) if $U = \{0, 1, 2, 3, 4, 5, 6\}$ $A = \{1, 3, 5\}$ $B = \{0, 3, 4, 5\}$ Then find $(A \cup B)' = A' \cap B'$

4) Verify $(A \cap B) - A' \cup B'$ using Venn diagram.

5) Verify $n(A \cup B \cup C) = n(A) + n(B) + n(C) - n(A \cap B) - n(B \cap C) - n(A \cap C) + n(A \cap B \cap C)$ if $A = \{a, c, e, f, h\}$ $B = \{c, d, e, f\}$ $C = \{a, b, e, f\}$