



INDIAN SCHOOL NIZWA - WORKSHEET

MATHEMATICS		
1.Sets		
	Work Sheet-2	
Name: _____	Date:15-04-2025	Class: XI Sec: A

1.	In a group of 850 persons, 600 can speak Hindi and 340 can speak Tamil. Find a) How many can speak both Hindi and Tamil b) How many can speak Tamil only c) How many can speak Hindi only.
2.	Write the set $B = \{3,9,27,81\}$ in set-builder form.
3.	Write all the subsets of set $\{1, 2, 3\}$ and also write the power set $P(A)$
4.	Which of the following pairs of sets are equivalent or equal? (a) $A = \{x : x \in \mathbb{N}, x \leq 6\}$ $B = \{x : x \in \mathbb{W}, 1 \leq x \leq 6\}$ (b) $P = \{\text{The set of letters in the word 'plane'}\}$ $Q = \{\text{The set of letters in the word 'plain'}\}$
5.	Let A and B are two finite disjoint sets such that $n(A \cup B) = 475$ and $n(A) = 435$, find $n(B)$
6.	For the sets $U = \{1, 2, 3, \dots, 10\}$, $A = \{1, 2, 5, 6\}$, $B = \{6, 7\}$, verify that $A - B = A \cap B' = B' - A'$
7.	If $A = \{4, 5, 7, 8, 10\}$, $B = \{4, 5, 9\}$ and $C = \{1, 4, 6, 9\}$, verify that (i) $(A \cap B) \cap C = A \cap (B \cap C)$
8.	If $A = \{4, 5, 8, 12\}$, $B = \{1, 4, 6, 9\}$ and $C = \{1, 2, 4, 7, 8\}$, then find (i) $A - (B - A)$ (ii) $A - (B \cap C)$
9.	Which of the following sets are empty sets? (i) $\{x : x \in \mathbb{R}, x^2 + 3 = 0\}$ (ii) $\{x : x \text{ is an even prime number}\}$



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10.	Write the following subsets of $\mathbb{R}$ as intervals: (i) $\{x : x \in \mathbb{R}, -4 < x \leq 6\}$ (iii) $\{x : x \in \mathbb{R}, 0 \leq x < 7\}$ (ii) $\{x : x \in \mathbb{R}, 12 < x < -10\}$ (iv) $\{x : x \in \mathbb{R}, 3 \leq x \leq 4\}$
11.	If X and Y are two sets such that $n(X) = 17$, $n(Y) = 23$, $n(X \cup Y) = 38$, find $n(X \cap Y)$.
12.	Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ $A = \{1, 2, 4, 6, 8, 10\}$ $B = \{1, 3, 5, 7, 8, 9\}$ Find: (a) A' (b) B' (c) $A' \cup B'$ (d) $A' \cap B'$ (e) $(A \cup B)'$ Also show $(A \cup B)' = A' \cap B'$.
13.	Let $U = \{a, b, c, d, e, f, g\}$, $A = \{a, c, f, g\}$, $B = \{f, g, b, d\}$ Verify: (a) $(A \cup B)' = (A' \cap B')$ (b) $(A \cap B)' = (A' \cup B')$