



INDIAN SCHOOL AL WADI AL KABIR

Dept. of Mathematics 2020 - 2021

Class XI – Revision Work Sheet – Sets

[Also available in google forms <https://docs.google.com/forms/d/1kqaHJlw20wDjD4HSJcX8OSWcUNmgLbA3QUoYfAZE3ls/edit>]

- 1 The set of intelligent students in a class is
 - (a) A null set
 - (b) A singleton set
 - (c) A finite set
 - (d) Not a well-defined collection

- 2 The number of subsets of a set containing 'n' elements is
 - (a) n
 - (b) $2^n - 1$
 - (c) n^2
 - (d) 2^n

- 3 For any two sets A and B, $A \cap (A \cup B) =$
 - (a) A
 - (b) B
 - (c) ϕ
 - (d) None of these

- 4 If $A = \{1, 3, 5, 6\}$ and $B = \{2, 4\}$ then
 - (a) $4 \in A$
 - (b) $\{4\} \subset A$
 - (c) $B \subset A$
 - (d) None of these

- 5 Which of the following statement is false:
 - (a) $A - B = A \cap B'$
 - (b) $A - B = A - (A \cap B)$
 - (c) $A - B = A - B'$
 - (d) $A - B = (A \cup B) - B$

- 6 Let $A = \{x \mid x \in \mathbf{R}, x \geq 4\}$ and $B = \{x \in \mathbf{R} \mid x < 5\}$. Then $A \cap B =$
 - (a) (4, 5)
 - (b) [4, 5)
 - (c) (4, 5]
 - (d) [4, 5]

- 7 Let U be the universal set containing 700 elements. If A, B are sub-sets of U such that $n(A) = 200$, $n(B) = 300$ and $n(A \cap B) = 100$. Then $n(A' \cap B') =$
 - (a) 300
 - (b) 400
 - (c) 600
 - (d) None of these

- 8 If A, B, C are three sets, then $A \cap (B \cup C)$ is equal to
 - (a) $(A \cup B) \cap (A \cup C)$
 - (b) $(A \cap B) \cup (A \cap C)$
 - (c) $(A \cup B) \cup (A \cup C)$
 - (d) None of these

- 9 In a class of 30 pupils, 12 take Mathematics, 16 take physics and 18 take Biology. If all the 30 students take at least one subject and no one takes all three then the number of pupils taking 2 subjects is
 - (a) 16
 - (b) 6
 - (c) 8
 - (d) 20

- 10 If $A = \{1, 2, 3, 4, 5\}$, $B = \{2, 4, 6\}$, $C = \{3, 4, 6\}$, then $(A \cup B) \cap C$ is
 - (a) {3, 4, 6}
 - (b) {1, 2, 3}
 - (c) {1, 4, 3}
 - (d) None of these

- 11 If A is any set then
 - (a) $A \cup A' = \emptyset$
 - (b) $A \cup A' = U$
 - (c) $A \cap A' = U$
 - (d) None of these

- 12 20 teachers of a school either teach Mathematics or physics. 12 of them teach Mathematics while 4 teach both the subjects. Then, the number of teachers teaching Physics only is
 (a) 8 (b) 12 (c) 16 (d) None of these
- 13 The set $A = \{x: x \text{ is a real number and } x^2 = 16 \text{ and } 2x = 6\}$ equals
 (a) \emptyset (b) $\{14, 3, 4\}$ (c) $\{3\}$ (d) $\{4\}$
- 14 In a survey of 400 students in a school, 100 were listed as taking apple juice, 150 as taking orange juice and 75 were listed as taking both apple as well as orange juice. Find how many students were taking neither apple juice nor orange juice.
 (a) 125 (b) 25 (c) 325 (d) 225
- 15 Two finite sets have m and n elements. Then total number of subsets of the first set is 56 more than that of the total number of subsets of the second. The value of 'm' and 'n' are
 (a) 7, 6 (b) 6, 3 (c) 5, 1 (d) 8, 7
- 16 A, B, C are the sets of letters needed to spell the words STUDENT, PROGRESS and CONGRUENT, respectively. Then $n[A \cup (B \cap C)]$ is equal to
 (a) 8 (b) 9 (c) 10 (d) 11
- 17 If $A = \{2x: x \in \mathbb{N}\}$, $B = \{3x: x \in \mathbb{N}\}$ and $C = \{5x: x \in \mathbb{N}\}$ then $A \cap (B \cap C)$ is equal to
 (a) $\{15, 30, 45, \dots\}$ (b) $\{10, 20, 30, \dots\}$
 (c) $\{30, 60, 90, \dots\}$ (d) $\{7, 14, 21, \dots\}$
- 18 If X and Y are two sets such that X has 40 elements, $X \cup Y$ has 60 elements $X \cap Y$ has 10 elements, how many elements does Y have
 (a) 25 (b) 35 (c) 30 (d) 40
- 19 In a class 60% passed their Physics examination and 58% passed in Mathematics. Atleast what percentage of students passed both their Physics and Mathematics examination?
 (a) 18% (b) 17% (c) 16% (d) 2%
- 20 In a group of 400 people, 250 can speak Hindi, and 200 can speak English. How many people can speak both Hindi and English
 (a) 50 (b) 55 (c) 60 (d) 65

Answers	
1	Not a well-defined collection
2	2^n
3	A
4	None of these
5	$A - B = A - B'$
6	[4, 5)
7	300
8	$(A \cap B) \cup (A \cap C)$
9	16
10	{3, 4, 6}
11	$A \cup A' = U$
12	8
13	\emptyset
14	225
15	6, 3
16	9
17	{30, 60, 90,.....}
18	30
19	18%
20	50