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DPP-2 (SETS)

1. Let $A=[x: x \in R, |x|<1];\ B=[x: x \in R, |x-1| \geq 1]$ and $A \cup B = R - D,$ then the set D is

(a) $[x: 1 < x \leq 2]$ (b) $[x: 1 \leq x < 2]$

(c) $[x: 1 \leq x \leq 2]$ (d) None of these

2. If *A*, *B* and *C* are any three sets, then *A* - (*B*∪*C*) is equal to

(a) (*A* - *B*) ∪ (*A* - *C*) (b) (*A* - *B*) ∩ (*A* - *C*)

(c) (*A* - *B*) ∪*C* (d) (*A* - *B*) ∩*C*

3. If A and B are sets, then A ∩ (B - A) is

(a) ϕ (b) A (c) B (d) None of these

4. If A and B are two sets, then $A \cap (A \cup B)'$ is equal to

(a) A (b) B (c) ϕ (d) None of these

5. Let U be the universal set and $A \cup B \cup C = U$. Then $\{(A-B) \cup (B-C) \cup (C-A)\}'$ is equal to

(a) $A \cup B \cup C$ (b) $A \cup (B \cap C)$

(c) $A \cap B \cap C$ (d) $A \cap (B \cup C)$

6. In a town of 10,000 families it was found that 40% family buy newspaper A, 20% buy newspaper B and 10% families buy newspaper C, 5% families buy A and B, 3% buy B and C and 4% buy A and C. If 2% families buy all the three newspapers, then number of families which buy A only is

(a) 3100 (b) 3300 (c) 2900 (d) 1400

7. In a city 20 percent of the population travels by car, 50 percent travels by bus and 10 percent travels by both car and bus. Then persons travelling by car or bus is

(a) 80 percent (b) 40 percent

(c) 60 percent (d) 70 percent

9. If A = {0, 1), and B = {1, 0}, then A × B is equal to

(a) {0, 1, 1, 0} (b) {(0, 1), (1, 0)}

(c) {0, 0} (d) {(0,1),(0,0),(1,1),(1,0)}

10. If $A=\{2,4,5\},\ B=\{7,\ 8,9\},$ then $n(A \times B)$ is equal to

(a) 6 (b) 9 (c) 3 (d) 0

11. If the set A has p elements, B has q elements, then the number of elements in A × B is

(a) $p+q$ (b) $p+q+1$ (c) pq (d) p^2

12. If $A=\{a,b\}, B=\{c,d\}, C=\{d,e\},$ then $\{(a,c),(a,d),(a,e),(b,c),(b,d),(b,e)\}$ is equal to

(a) A∩ (B∪C) (b) A∪ (B∩C)

(c) A × (B∪C) (d) A × (B∩C)

13. If $A=\{x: x^2-5x+6=0\}, B=\{2,4\}, C=\{4,5\},$ then $A \times (B \cap C)$ is

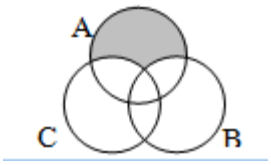
(a) {(2, 4), (3, 4)} (b) {(4, 2), (4, 3)}

(c) {(2, 4), (3, 4), (4, 4)} (d) {(2,2), (3,3), (4,4), (5,5)}

14. In a class of 55 students, the number of students studying different subjects are 23 in Mathematics, 24 in Physics, 19 in Chemistry, 12 in Mathematics and Physics, 9 in Mathematics and Chemistry, 7 in Physics and Chemistry and 4 in all the three subjects. The number of students who have taken exactly one subject is

(a) 6 (b) 9 (c) 7 (d) All of these

15.



The shaded region in the given figure is

(a) $A \cap (B \cup C)$ (b) $A \cup (B \cap C)$

(c) $A \cap (B - C)$ (d) $A - (B \cup C)$

16. If A and B are two sets then $(A - B) \cup (B - A) \cup (A \cap B)$ is equal to

(a) $A \cup B$ (b) $A \cap B$ (c) A (d) B'

17. Let A and B be two sets then $(A \cup B)' \cup (A' \cap B)$ is equal to

(a) A' (b) A (c) B' (d) None of these

Answers

1)b 2) b 3) a 4)c 5)c 6)b 7)c 9)d 10)b 11)c 12)c 13)a14)c15)d 16)a 17)a