

IMPACT SIMPLIFIED SET THEORY CBT QUESTIONS

Subset

1. The total collection of all subset of a set is called A. Subset B. Proper set C. Set D. Power set
2. The set of all subsets of set X is called _____.
3. Two sets A and B that do not have any common elements is said to be _____.
4. Set A is said to be equal to set B if and only if _____ and _____.
5. When the number of elements in a given set is finite, the set is called a _____.
6. If $A = \{1, 2, 3, 4, 5\}$, find the cardinality of A.
7. What is the cardinality of the set $A = \{5, 4, 7, 3, 1, 0\}$.
8. If $A = \{2, 4\}$ and $B = \{x: x^2 - 6x + 8 = 0\}$, what is the relationship between A and B
9. If $P = \{a, b, c, d, e, f\}$ and $Q = \{c, d, e\}$, therefore Q is said to be a _____ of P.
10. How many subsets will a set containing 5 elements have?
11. Which is the subset of $\{a, e, i, o, u\}$
12. If set $A = \{1, 2, 3\}$, find $P(A)$.
13. If a set has three sample points, the total points in its power set is A. 9 B. 8 C. 27 D. 10
14. How many subsets does the set $A = \{a, b, c, d, e\}$ have?
15. Find the power set of $S = \{a, \{b, c\}\}$.
16. _____ set is part of the set of all subset.
17. Determine $A = \{x: x \in \mathbb{N}, x^3 - 7x + 6 = 0 \text{ and } 3x = 9\}$.
18. Determine element of $S = \{x: x \in \mathbb{Z}, 2x^3 - 3x^2 - 5x + 6 = 0\}$.
19. Determine $U = \{x: x \in \mathbb{R}, x^2 = 16 \text{ and } 3x = 9\}$.
20. Given a set $S = \{x: x \in \mathbb{R}, x^2 + 1 = 0\}$ then members of S is _____.
21. If $S = \{x: x^2 = 0, x > 4\}$, then S is equal to
22. Let $S = \{1, 3, 5, 7, 9\}$, $T = \{x \in \mathbb{Z}, x^3 - 6x^2 + 11x - 6 = 0\}$, then $S \cap T$ is
23. $-1 \leq x \leq 4$, is a set containing
24. If $A = \{6, 7, 8\}$ and $B = \{3, 4, 7\}$, find $A \Delta B$.
A. $\{3, 6\}$ B. $\{6\}$ C. $\{3, 4\}$ D. $\{3, 4, 6, 8\}$
25. Given $U = \{x: x \text{ is a positive integer less than } 15\}$ and $P = \{x: x \text{ is even number from } 1 \text{ to } 14\}$, find the compliment of P.
26. Given $T = \{\text{Even numbers from } 1 \text{ to } 12\}$, $N = \{\text{Common factors of } 6, 8 \text{ and } 12\}$, find $T \cap N$.
27. If $A = \{1, 2, 3, 4\}$ and $B = \{a, b, c, d\}$ then A is _____ to B.
28. What is the relationship between set $A = \{a, b, c, d\}$ and $B = \{e, d, a, c\}$.
29. What **are** the relationship between set $A = \{1, 2, 5\}$ and $B = \{5, 1, 2\}$.
30. If the universal set $E = \{x: x \text{ is a natural number and } 1 \leq x \leq 9\}$, $P = \{x: 1 \leq x \leq 4\}$, $Q = \{2, 4, 6, 8\}$, find $(P \cup Q)^1$.
31. Given that set A is the subset of the universal set $E = \{a, b, c, d, e, f\}$ and $A = \{c, e, f\}$. Find the compliment of set A.
32. Given that $G = \{h, e, a, p\}$ and $H = \{l, a, k, e\}$, find $G \cup H$.
33. Let the universal set U be the set of integers, $U = \{x: 1 \leq x \leq 10\}$, $P = \{x: x \in U, x \text{ is not divisible by } 4\}$, find the compliment of the set P.

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34. If $Q = \{\text{All perfect squares less 30}\}$ and $P = \{\text{All odd numbers from 1 to 10}\}$. Find $Q \cap P$.
35. If $A = \{x: x \text{ is a factor of } 72\}$, $B = \{x: \frac{1}{2}x + 3 < 2x - 3\}$, $C = \{x: x < 20\}$, $E = \{\text{Integers}\}$, A, B and C are element of the universal set. List the elements of $A \cap B \cap C$.
36. In a class of 80 students, every student had to study Economics or Geography of both Economics and Geography. If 65 students studied Economics and 50 studied Geography, how many studied both subjects.
37. In school of 150 students, 80 offer French while 60 offer Arabic and 20 offers neither, how many students offer both subjects?
38. In a class of 42 students, each student offers at least mathematics and physics. If 22 students offer physics and 28 offers mathematics, find how many students offer physics only?
39. Out of 25 teachers, 16 are married and 15 are women, if 6 of the men are married, how many of the women are not married?
40. In a class of 40 students, each student offers at least one of physics and chemistry. If the number of students that offer physics is three times the number that offer both subjects and the number that offers chemistry is twice the number that offers physics, find the number of students that offer physics only.
41. Let P and Q be two finite sets such that $n(P \cup Q) = 54$, $n(P \cap Q) = 8$ and $n(Q) = 27$, $n(P) = ?$
42. Which of the following sets is equivalent to $(P \cup Q) \cap (P \cup Q)^1$
43. If P and Q are non - empty sets, simplify $(P \cap Q) \cap (P^1 \cup Q^1)$
44. _____ is equivalent to $(P^1 \cap (Q \cup Q^1))^1$
45. Given that for set A and B, in a universal set (E), $A \subseteq B$ then $A \cap (A \cap B)^1$