MATHS

Set Theory Worksheet for MAH MCA CET 2025

For students preparing for MCA Entrance Exam.

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1. If A = {1, 2, 3, 4}, then what is the number of subsets of A with at least three elements?
   - A. 5
   - B. 4
   - C. 3
   - D. 10

2. Which of the following two set are equal?
   - A. A = {1,2} and B = {1}
   - B. A = {1,2} and B = {1,2,3}
   - C. A = {1,2,3} and B = {2,1,3}
   - D. A = {1,2,4} and B = {1,2,3}

3. Power set of empty set has exactly _____ subset.
   - A. One
   - B. Two
   - C. Zero
   - D. Four

4. Which one of the following is an infinite set?
   - A. {x: x is a positive integer less than or equal to 1000}
   - B. {x : x is a natural number less than 1000}
   - C. {x: x is a whole number less than or equal to 1000}
   - D. {x : x is an integer and less than 1000}

5. If A and B are sets and A∪B= A ∩ B, then
   - A. A= Φ
   - B. B= Φ
   - C. A=B
   - D. None of these

6. Which of the following sets are null sets?
   - A. {0}
   - B. Ø
   - C. { }

   - D. Both (b) & (c)

7. If A = {1, 2, 3} and B= {3,4,5}, what is A∪B?
   - A. {1,2,3,4,5}
   - B. {3}
   - C. {1,2}
   - D. {4,5}

8. Given A= {2, 4, 6, 8} and B= {1,2,3,4,5} what is A∩B?
   - A. {1,3,5}
   - B. {2,4}
   - C. {6,8}
   - D. {1,2,3,4,5,6,8}

9. If U = {1,2,3,4,5,6} is universal set and A = {2,4,6}, what is the complement of A?
   - A. {1,2,3}
   - B. {2,4,6}
   - C. {1,3,5}
   - D. {4,5,6}

10. If A = {x | x is an integer, -2 < x < 3}, then A equals:
    - A. {-2, -1, 0, 1,2,3}
    - B. {-1, 0, 1,2}
    - C. {-2, -1, 0, 1, 2}
    - D. {-1,0,1}

11. Which of the following sets is empty?
    - A. {x | x is a real number and $x^2 +1=0$}
    - B. {x | x is an integer and $x^2 = 4$}
    - C. {x | x is a natural number and x> 0}
    - D. {0}

12. if n(A) = 5 and n(B) = 7, and A and B are disjoint, what is n (A ∪ B)?
    - A. 12
    - B. 35

C. 7
D. 5

13. Write the solution set of the equation
$x^2 + x - 2 = 0$ in roster form
   A. (1,3)
   B. (-1, -2)
   C. (1, -2)
   D. (3,2)

14. If A = {1,2,3} and B = {3,4}, then
(A U B) X (A ∩ B) is
   A. {3,3}
   B. {(1,3), (2,3), (3,3), (1,4), (2,4), (3,4)}
   C. {(1,3), (2,3), (3,3)}
   D. {(1,3), (2,3), (3,3), (4,3)}

15. If n(A) = 8, n (A ∩ B) = 2, then n (A - B) is
equal to
   A. 8
   B. 2
   C. 6
   D. 9

16. A set contains n element. Then, the power set
contains
   A. n^2 elements
   B. n elements
   C. $(2^n - 1)$ elements
   D. 2^n elements

17. If A = {1,2,3,4} and B = {5,6,7}, then number
of relations form A to B is equal to
   A. 2^4
   B. 2^3
   C. 2^7
   D. 2^{12}

Answer Key

1. A	2. C	3. A	4. D	5. C	6. C	7. A	8. B	9. C	10. B
11. A	12. A	13. C	14. D	15. C	16. D	17. D			