



Test / Exam Name: Maths - Sets

Standard: 11th Science

Subject: Mathematics

Student Name: .....

Section: .....

Roll No.: .....

Questions: 29 Time: 01:30 hr:mm Marks: 50

Instructions

- 1. New section on new page
2. Make sure to write in the point formation. You handwriting should be neat and clean
3. Rough work at the last page should be in proper manner too
4. Honesty is the best policy.

SECTION-A

- Q1. If X and Y are any two non empty sets then what is (X-Y)' equal to?
Q2. If A, B and C are any three set, then A U (B n C)
Q3. A and B are two sets having 3 and 5 elements respectively and having 2 elements in common. Then the number of elements in A x B is:
Q4. Let n(A) = 28, n(A n B) = 8, n(A u B) = 52, then n(A n B)
Q5. Which set is the subset of the set containing all the whole numbers?
Q6. Given A = {a, b, c, d, e, f, g, h} and B = {a, e, i, o, u} then B - A is equal to:
Q7. If X and Y are two sets such that n(X) = 45, n(X u Y) = 12, find n(Y)
Q8. The set of all those elements of A and B which are common to both is called:
Q9. Are the following pairs of sets equal? Give reasons.

SECTION-B

- Q10. List all the element of the following sets:
Q11. List all the elements of the following sets:
Q12. Describe the following sets in set-builder form:
Q13. What universal sets would you propose for the following:
Q14. Describe the following sets in Roster form:
Q15. The given following sets are finite & in which of it infinite in if?
Q16. From the sets given below, pair the equivalent sets:
Q17. If A = {1, 2, 3, 4, 5}, B = {4, 5, 6, 7, 8}, C = {7, 8, 9, 10, 11}, and D = {10, 11, 12, 13, 14}. Find:
Q18. For any two sets A and B, prove that.
Q19. Find the smallest set A such that A U {1, 2} = {1, 2, 3, 5, 9}.

Q20. For any two sets A and B, prove that: B subset A union B.

Q21. If A = {1, 2, 3, 4, 5}, B = {4, 5, 6, 7, 8}, C = {7, 8, 9, 10, 11}, and D = {10, 11, 12, 13, 14}. Find: (A n B) n (B n C)

Q22. Let A = {x: x in N}, B = {x: x = 2n, n in N}, C = {x: x = 2n - 1, n in N} and D = {x: x is a prime natural number}. Find: A n D

Q23. Let A = {1, 2, 4, 5}, B = {2, 3, 5, 6}, C = {4, 5, 6, 7}. Verify the following identities: A n (B u C) = (A n B) u (A n C)

Q24. For any two sets, prove that: A n (A u B) = A

Q25. Let A = {3, 6, 12, 15, 18, 21}, B = {4, 8, 12, 16, 20}, C = {2, 4, 6, 8, 10, 12, 14, 16}, D = {5, 10, 15, 20}. Find: 1. A - B 2. A - C 3. A - D 4. B - A 5. C - A 6. D - A 7. B - C 8. B - D.

Q26. Let A = {1, 2, 4, 5}, B = {2, 3, 5, 6}, C = {4, 5, 6, 7}. Verify the following identities: A - (B u C) = (A - B) n (A - C)

Q27. Let U = {1, 2, 3, 4, 5, 6, 7, 8, 9}, A = {1, 2, 3, 4}, B = {2, 4, 6, 8}, and C = {3, 4, 5, 6}. Find: 1. A' 2. B' 3. (A n C)' 4. (A u B)' 5. (A)'' 6. (B - C)'.

Q28. In a survey of 60 people, it was found that 25 people read newspaper H, 26 read newspaper T, 26 read newspaper I, 9 read both H and I, 11 read both H and T, 8 read both T and I, 3 read all three newspapers. Find: The number of people who read exactly one the newspapers.

Q29. For any two sets A and B, prove that: A n B = phi implies A subset B'.

SECTION-C

Q28. In a survey of 60 people, it was found that 25 people read newspaper H, 26 read newspaper T, 26 read newspaper I, 9 read both H and I, 11 read both H and T, 8 read both T and I, 3 read all three newspapers. Find: The number of people who read exactly one the newspapers.