REVISION TEST 01
CLASS XI MATHMATICS
SETS AND FUNCTIONS

Topic: -Sets

1. List all the element of the set A = { x : x is an integer $x^2 \leq 4$} [1]

2. From the sets given below pair the equivalent sets. [1]

   A = { 1, 2, 3}, B = {x, y, z, t}, C = {a, b, c} D = {0, a}

3. Write the following as interval [1]

   (i) {x : x ∈ R, - 4 < x ≤ 6}

   (ii) {x : x ∈ R, 3 ≤ x ≤ 4}

4. If A = {3, 5, 7, 9, 11}, B = {7, 9, 11, 13}, C = {11, 13, 15} [1]

   Find (A ∩ B) ∩ (B ∪ C)

5. Write the set $\dfrac{1}{3}, \dfrac{3}{5}, \dfrac{5}{7}, \dfrac{7}{9}, \dfrac{9}{11}, \dfrac{11}{13}$ in set builder form. [1]

6. In a group of 65 people, 40 like cricket, 10 like both cricket and tennis. How many like tennis only and not cricket? How many like tennis? [4]

7. Let A, B and C be three sets A ∪ B = A ∪ C and A ∩ B = A ∩ C show that B = C [4]

8. If ∪ = {a, e, i. o. u} [4]

   A = {a, e, i}

   And B = {e, o, u}

   C = {a, i, u}

   Then verity that A ∩ (B – C) = (A ∩ B) – (A ∩ C)

9. In a town of 10,000 families, it was found that 40% families buy newspaper A, 20% families 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 papers. Find the no. of families which buy [6]

   (i) A only (ii) B only (iii) none of A, B, and C.

10. Two finite sets have m and n elements. The total no. of subsets of the first set is 56 more than the total no. of subsets of second set. Find the value of m and n. [6]

SOLUTION

Ans 01. {-2, -1, 0, 1, 2}

Ans 02.   A = {1, 2, 3} B = {a, b, c} are equivalent sets $\because n(A) = n(B)$

[   ]

Ans 03.   (i)   (-4, 6]
           (ii)   [3, 4]

Ans 04. A ∩ B = {7, 9, 11}

B ∪ C = {7, 9, 11, 13, 15}

(A ∩ B) ∩ (B ∪ C) = {7, 9, 11}

Ans 05. $\dfrac{2n-1}{2n+1}$: n is a natural no. less than 7

Ans 06.   Let C = the set of people who like cricket and
           T = the set of people who like tennis.

n (C ∪ T) = 56, n (C) = 40

n (C ∩ T) = 10

n (C ∪ T) = n (C) + n (T) − n (C ∩T)

65 = 40 + n (T) – 10

n (T) = 35

NOTE: : A score of 25 or more on this 11th grade math test (sets and function) is a good indication that most skills taught in sets and function were mastered

If you strugled a lot on this sets and function math test, get someone who is expert in mathmatics to help you.

Best of luck..