# **PRITHWI SECONDARY BOARDING SCHOOL** Basundhara, Kathmandu, Contact: 01-5904816

**ANNUAL EXAMINATION - 2077**

**Grade: IX Full Marks: 50**

**Subject: Compulsory Mathematics Pass Marks: 20**

**Time: 1 hour 30 minutes**

**Group A: [2 X 1 = 2]**

* 1. 1. Write the formula to find profit percent when C. P., S. P. and profit are given.
     2. A square has its perimeter 24 cm; find the length of its side.

**Group B: [6 X 2 = 12]**

* + 1. Find the area of a triangle whose base is 8 cm and height are 6 cm.
    2. What is the cost of carpeting a room 8m long, the breadth being 75% of its length, at the rate of Rs.39 per square meters?
    3. How many bricks each of 25cm × 10cm will required for paving a floor of a room 40m × 30m?
    4. The marked price of an article is Rs. 250 and 10% discount are allowed. How much is the discount amount?
    5. Let A = and B = , find
    6. Find the number of subsets of the set A = .
  1. 1. Factorize: 50ax2 – 32ay2.
     2. Factorize: x2 + 5x + 6.
  2. 1. Solve: 2 x +1 – 2x = 8.
     2. Solve: 2x2 -3x +1 =0.
  3. 1. The angles of a triangle are x0, 2x0 and 3x0. Find the angles of the triangle.
     2. One of the acute angles of a right-angled triangle is 300. Find the other acute angle.

**Group C: [9 X 4 = 36]**

* 1. In a group of 450 students, 250 like oranges, 280 like apples and 40 dislike both the fruits.
     1. Find the number of students who likes both the fruits.
     2. Show the result in Venn diagram.
  2. A room is 10 m long, 8m wide and 5 m high. Find the cost of colouring its walls and ceiling at Rs. 36 per square meters.
  3. Solve: 4x – 4x-1 = 192.
  4. Solve: = .
  5. The sum of two numbers is 16 and their product is 63. Find the numbers.
  6. Prove that the sum of angles of triangle is two right angles.
  7. Inside a rectangular garden, 100m long and 80 m broad runs two crossing paths each of 5 m width, at right angle to each other, find the cost of planting at the remaining region at the rate of Rs. 1.60 per square meters.
  8. When a bicycle is sold allowing 10% discount on its marked price, a seller gains 5% and allowing 5% discount, the profit is Rs.351. Find the cost price of the bicycle.
  9. Write all the conditions of congruency of triangles with examples.

*Best Wishes!!!*