Sample Paper – 2012
Class – IX
Subject – Mathematics

Time-1:30 hr **Topic- HERON'S FORMULA** Max.Marks-25

Multiple Choice Questions (5×1)

Choose the correct answer from the given four options in the following questions:

1. Two sides of a triangle are 8cm and 11cm and its perimeter is 32cm.The third side is :

(a) 4cm (b) 13cm (c) 14cm (d) 16cm

2. The base of a triangle is 12cm and height is 8cm .Its area is:

(a) $24cm^2$ (b) $96cm^2$ (c) $48cm^2$ (d) none

3. The sides of a triangular plot are in the ratio 3:5:7 and its perimeter is 300m . The sides of a triangle are.

(a) 60m,100m,40m (b) 50m,80m,60m (c) 45m,75m,95m (d) none

4. What will be the area of quadrilateral ABCD if AB =3cm, BC=4cm, CD=4cm, DA=5cm and AC=5cm.

(a) 12.5cm (b) 15.2cm (c) 18.2cm (d)19.2cm

5. An isosceles triangle has perimeter 30cm and each of equal side is 12cm .Area of triangle is:

(a) $8\sqrt{15}cm^2$ (b) $7\sqrt{12}cm^2$ (c) $9\sqrt{15}cm^2$ (d)none

Fill in the blanks (4×1)

Complete the following sentences

1. Area of an equilateral triangle with side 'a' is _____.

2. If a, b, and c are the three sides of a triangle then by Hero's formula area is_____.

3. In Heron's formula semi perimeter is equal to _____.

4. Area of a right angled triangle is _____.

Subjective Questions (5×2)

1. The area of a parallelogram is 392m^2.If its altitude is twice the corresponding base, determine the base and height.

2. The adjacent sides of a parallelogram are 36cm and 27cm in length .If the distance between the shorter sides is 12cm, find the distance between the longer sides.

3. A rectangular lawn, 75m by 60m, has two roads , each 4m wide, running through the middle of the lawn, one parallel to length and other parallel to breadth. Find the cost of gravelling the roads at Rs 5.50 per m^2

4. Using Heron's formula, find the area of an equilateral triangle if its side is 'a 'units.

5. Find the percentage increase in the area of a triangle if its each side is doubled.

HOTS (High Order Thinking Skills) Questions: (2×3)

1. Find the area of quadrilateral ABCD whose sides in meters are 9, 40, 28 and 15 respectively and the angle between first two sides is a right angle.

2. The difference between the sides containing a right angle in a right angled triangle is 14cm. The area of a triangle is 120cm^2.Calculate the perimeter of a triangle.