

BHARATH COACHING CENTRE

9th CBSE

Maths

Total: 50

Heron's Formula

Time: 1.30hrs

SECTION – A

$5 \times 1 = 5$

1. The base of a right triangle is 15 cm and its hypotenuse is 25 cm, then calculate its area.
2. A square and an equilateral triangle have equal perimeters. If the diagonal of the square is $2\sqrt{2}$ cm, then find the area of the triangle.
3. Find out the area of an isosceles triangle whose base is 'a' and equal sides are of length 'b'.
4. Write the formula used to calculate the area of an equilateral triangle of side 'a' units.
5. The edges of a triangular board are 6cm, 8cm and 10 cm. calculate the cost of painting it at the rate of 9 paise per cm^2 .

SECTION – B

$5 \times 2 = 10$

6. If the area of an equilateral triangle is $81\sqrt{3} \text{ cm}^2$, find its perimeter.
7. Using Heron's formula, find the area of a triangle whose sides measure 20 cm, 30cm and 40 cm.
8. Find the area of a rhombus whose perimeter is 200m and one of the diagonal is 80 m.
9. Compute the area of the trapezium shown in the figure.
10. Find the area of a rhombus whose side is 20 cm and one of its diagonal is 24 cm.

SECTION – C

$5 \times 3 = 15$

11. The base and hypotenuse of a right triangle are respectively 8 cm and 10 cm long. Find its area.

12. The sides of a triangular field are 51 m, 37 m and 20 m. find the number of rose beds that can be prepared in the field if each rose bed occupies a space of 6 sq. m.
13. The sides of a triangle are x , $x + 1$, $2x - 1$ and its area is $x\sqrt{10}$. What is the value of x ?
14. Find the area of a quadrilateral field ABCD in which $AB = 50$ m, $BC = 18$ m, $CD = 82$ m, $DA = 50$ m and $\angle CBD = 90^\circ$
15. The shape of cross – section of a canal is a trapezium. If the canal is 10m wide at the top and 6m wide at the bottom and the area of the cross-section is 72 m^2 , find its depth.

SECTION – D

$$5 \times 4 = 20$$

16. Two identical circle with same inside design as shown in the given figure are to be made at the entrance. The identical triangular leaves are to be painted red and the remaining are to be painted green. Find the total area to be painted red.
17. A field is in the shape of a trapezium whose parallel sides are 35 m and 10m. The non-parallel sides are 14m and 13 m. find the area of the field.
18. A floral design on a floor is made up of 16tiles which are triangular, the sides of the triangle being 9cm, 28cm and 35cm. Find the cost of polishing the tiles at the rate of 50paise per cm^2 .
19. Find the area of a quadrilateral ABCD in which $AB = 42$ cm $BC = 21$ cm, $CD = 29$ cm, $DA = 34$ cm and diagonal $BD = 20$ cm.
20. A traffic signal board, indicating 'SCHOOL AHEAD', is an equilateral triangle with side 'a'. Find the area of signal board, using Heron's formula. If its perimeter is 180cm, what will be the area of the signal board?