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Class: 9
Subject: Mathematics
Topic: Herons Formula
No. of Questions: 20

Q1. Madhav makes the kite using two piece of paper. 1st piece of paper is cut in the shape of square where one diagonal is of the length 33cm. At one of the vertex of this square a second piece of paper is attached which is of the shape of an equilateral triangle of length 6 cm to give the shape of a kite. Find the area of this kite.

Q2. The area of an equilateral triangle with side of Q cm is:

Q3. The perimeter of a rhombus is 164 cm and one of its diagonals is 80 cm. What is the length of other diagonal?

Q4. The area of a triangle with sides 26 cm, 25 cm and 3 cm is:

Q5. A Carpenter has cut a board in the shape of Trapezium. If the parallel sides of the trapezium are 23 cm and 12 cm and non-parallel sides are 14 cm and 14 cm, find the area of the board.
(a) 154.49 cm^2
(b) 22.53 cm^2
(c) 225.3 cm^2
(d) 450.6 cm^2

Q6. A parallelogram has a diagonal of 8 cm. The perpendicular distance of this diagonal from an opposite vertex is 5 cm. Find the area of the parallelogram.
(a) 40 cm^2
(b) 10 cm^2
(c) 13 cm^2
(d) 20 cm^2

Q7. The area of an equilateral triangle with a side of 12 cm is:
(a) $36\sqrt{3}$ cm^2
(b) 1728 cm^2
(c) 36 cm^2
(d) 144 cm^2

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Q8. The base of an isosceles triangle is J cm and its perimeter is T cm. find the area of the triangle.

(a) $(J(4T^2-J^2) / 4$ cm^2

(b) $(J\sqrt{T^2 - J^2}) / 4$ cm^2

(c) $(\frac{J}{4}) \sqrt{(T^2 - 2TJ)}$ cm^2

(d) $(J^2\sqrt{4T^2 - J^2}) / 4$ cm^2

Q9. A field in the shape of trapezium has its parallel sides as 25 m and 13 m while the non-parallel sides are 15 m and 16 m. Find the amount of money farmer has to pay if the cost of sowing the seeds per m^2 area is Rs. 125.

(a) Rs. 10681.25

(b) Rs. 50735.625

(c) Rs. 270.59

(d) Rs. 33823.75

Q10. An umbrella is made by stitching 12 triangular pieces of cloth each piece measuring 25 cm, 47 cm and 47 cm. How much cloth is required for this umbrella.

(a) 6796.08 cm^2

(b) 10194.12 cm^2

(c) 566.34 cm^2

(d) 3398.04 cm^2

Q11. The two adjacent sides of a parallelogram are 5 cm and 12 cm. if one of its diagonals is 13 cm, find the area of the triangle.

(a) 60 cm^2

(b) 780 cm^2

(c) 30 cm^2

Q12. In heron's formula, S is equal to:

(a) A + b + c

(b) $\frac{a \times b \times c}{2}$

(c) Half of perimeter of the triangle

(d) $\frac{a+b+c}{abc}$

Q13. From a point in the interior of an equilateral triangle, perpendiculars are drawn on the three sides. If the lengths of the perpendiculars are a, b and c, find the area of the triangle.

(a) $(abc)^2 / \sqrt{3}$

(b) $abc / \sqrt{3}$

(c) $(a+b+c)^2 / \sqrt{3}$

(d) $(a+b+c) \sqrt{3}$

Q14. Find the area of a quadrilateral ABCD where AB = 9 cm, BC = 10 cm, CD = 16 cm, DB = 19 cm and AC = 11 cm.

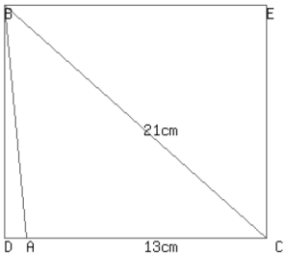
(a) 130.34 cm^2

(b) 1303.4 cm^2

(c) 87.91 cm^2

(d) 42.43 cm^2

Q15. If in the figure below BC = 21 cm, CA = 13cm and BD = 16.99cm, find the area of the triangle ABC.



(a) 165.63 cm^2

(b) 25.5 cm^2

(c) 110.42 cm^2

(d) 220.84 cm^2

Q16. The semi perimeter of a triangle having the length of its sides as 20 cm, 15 cm and 9 cm is:

(a) 44 cm

(b) 21 cm

(c) 22 cm

(d) None

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Q16. An isosceles triangle has perimeter 30 cm and each of the equal sides is 12 cm. Find area of the triangle.

Q17. Find the area of an equilateral triangle with side 10 cm.

Q18. The sides of a Δ are 7 cm, 24 cm and 25 cm. Its area is:
(a) 168 cm^2
(b) 84 cm^2
(c) 87.5 cm^2
(d) 300 cm^2

Q19. A square and an equilateral triangle have equal perimeters. If the diagonal of the square is 12 $\sqrt{2}$ cm, then area of the of triangle is:
(a) 24 $\sqrt{2}$ cm^2
(b) 24 $\sqrt{3}$ cm^2
(c) 48 $\sqrt{3}$ cm^2
(d) 64 $\sqrt{3}$ cm^2

Q20. A triangle and a parallelogram have the same base and the same area. If the sides of the triangle are 15 cm, 14 cm and 13 cm, and the parallelogram stands on the base 15 cm, find the height of the parallelogram.