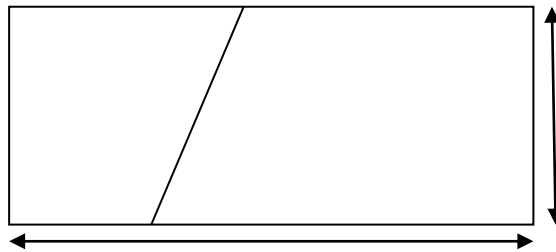


INTERNATIONAL INDIAN SCHOOL, RIYADH

TOPIC: HERON'S FORMULA

CLASS: IX

1. The perimeter of a triangular field is 240m. Its two sides are 78m and 50m. Find the length of the altitude on the side of 50m length from its opposite vertex.
2. The parallel sides of a trapezium are 77m and 60m and its non-parallel sides are 26m and 25m. Find the area of the trapezium.
3. The dimensions of rectangle ABCD are 51cm X 25cm. A trapezium PQCD with its parallel sides QC and PD in the ratio 9:8 is cut off from the rectangle as shown in figure. If the area of the trapezium PQCD is $\frac{5}{6}$ th part of the area of rectangle. Find the lengths QC and PD.



4. The perimeter of a rhombus is 146cm. One of its diagonals is 55cm. Find the length of the other diagonal and area of the rhombus.
5. The perimeter of a right triangle is 144cm and its hypotenuse measures 65cm. Find the length of other sides and calculate its area. Verify the result using Heron's formula.
6. One side of an equilateral triangle measures 8cm. Find its area using Heron's formula. What is its altitude?
7. Find the percentage increase in the area of a triangle if its each side is doubled.
8. A triangular park has sides 120m, 80m and 50m. A gardener has to put a fence all round it and also plant grass inside. How much area does she need to plant? Find the cost of fencing it with barbed wire at the rate of Rs 20 per m leaving a space 3m wide for a gate on one side.

9. The perimeter of an isosceles triangle is 42cm and its base is $\frac{3}{2}$ times each of the equal sides. Find the length of each side of the triangle, area of the triangle and the height of the triangle.
10. Find the area of a quadrilateral whose sides are 9m , 40m , 28m , and 15m and the angle between the first two sides is a right angle.
11. A triangle and a parallelogram have the same base and the same area. If The sides of the triangle are 26cm, 28cm and 30cm and parallelogram stands on the base 28cm. Find the height of the parallelogram.
12. A rectangle has twice the area of square. The length of rectangle is 12cm longer and the width is 8cm longer than the sides of the square. Find the area of the square.
13. Prove that the length of the altitude of an equilateral triangle of side 'a' is $\frac{3}{2}$ a.
14. The length of sides of a right angled triangle forming the right angle are 5x cm and (3x – 1) cm. If the area of the triangle is $60cm^2$. Find its all sides.
15. Find the perimeter of an isosceles right angled triangle having area $200cm^2$

