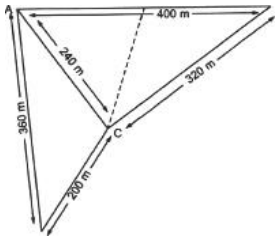
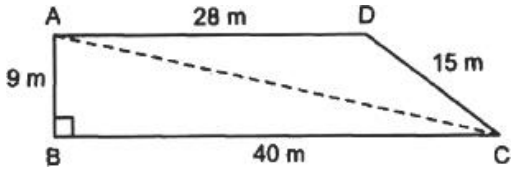
Ch-10 Heron's Formula

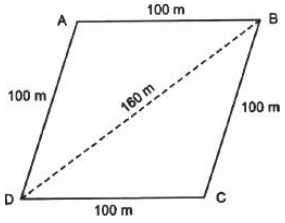
1. Find the area of a triangle whose sides are 12 cm, 6 cm and 15 cm.
2. Find the area of a triangle whose sides are 4.5 cm and 10 cm and perimeter 10.5 cm.
3. A park in the shape of a quadrilateral ABCD has C = 90°. AB = 18 m, BC = 24 m, CD = 10 m and AD = 16 m. How much area does it occupy?
4. Find the area of a triangle with base = 20 cm and height = 10 cm.
5. Find the area of a triangle having perimeter 32 cm. One of its side is equal to 11 cm and difference of the other two is 5 cm.
6. Perimeter of the rhombus is 100 m and its diagonal is 40 m. Find the area of rhombus.
7. The perimeter of a triangular field is 135 cm and its sides are in the ratio 25 : 17 : 12. Find its area.
8. If area of the hexagon is $24\sqrt{3}$ cm^2, find its perimeter.
9. Find the area of a right-angled triangle whose base is 12 cm and height is 5 cm.
10. Find the area of an equilateral triangle with side 10 cm.
11. Find the area of an isosceles triangle with two equal sides as 5 cm each and the third side as 8 cm.
12. A triangular park has sides 120 m, 80 m and 50 m. A gardener has to put a fence all around it and also plant grass inside. How much area does he need to plant? Find the cost of fencing it with barbed wire at the rate of Rs.20 per metre, leaving a space of 3 m wide for a gate on one side.
13. The sides of a triangular plot are in the ratio of 6 : 7 : 8 and its perimeter is 420 m. Find its area.
14. A farmer has a triangular field with sides 240 m, 200 m and 360 m, where he grew wheat. In another triangular field with sides 240 m, 320 m and 400 m adjacent to the previous field, he wanted to grow potatoes and onions (see figure). He divided the field into two parts by joining the mid-point of the longest side to the opposite vertex and grew potatoes in one part and onions in the other part. How much area (in hectares) has been used for wheat, potatoes and onions? Now 10,000 m^2 = 1 hectare.



15. Students of a school staged a rally for cleanliness campaign. They walked through the lanes in two groups. One group walked through the lanes AB, BC and CA; while the other through AC, CD and DA (see figure). Then they cleaned the area enclosed within their lanes. If AB = 9 m, BC = 40 m, CD = 15 m, DA = 28 m and ∠B = 90^o. Which group cleaned more area and by how much? Find the total area cleaned by the students (neglecting the width of the lanes).

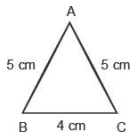


16. Parul has a piece of land which is in the shape of a rhombus (see fig.). She wants her daughter and son to work on the land and produce different crops. She divided the land in two equal parts. If the perimeter of the land is 400 m and one of the diagonal is 160 m, how much area each of them will get for their crops?



17. What is the area of an equilateral triangle whose side is 2 cm?
18. Find the area of a triangle whose sides are 3 cm, 4 cm and 5 cm.

19. The area of an equilateral triangle whose side is 'a' cm is $\frac{\sqrt{3}}{4}\ a^2$ cm^2. Find its height.
20. The lengths of sides of a triangle are in the ratio 3 : 4 : 5 and its perimeter is 120 cm, find its area.
21. Find the area of a quadrilateral ABCD in which AB = 8 cm, BC = 6 cm, CD = 8 cm, DA = 10 cm and AC = 10 cm.
22. The sides of a triangle are 5 cm, 12 cm and 13 cm. What is its area?
23. What is the area of the given ΔABC?



24. The sides of a triangle are in the ratio of 3 : 4 : 5 and its perimeter is 510 m. What is the measure of its greatest side?
25. The perimeter of a right triangle is 30 cm. If its hypotenuse is 13 cm, then what are two sides?