# EXERCISE # 1

## A. Short Answer Type Questions

**Q.1** Find the area of a triangle, two sides of which are 8 cm and 11 cm and the perimeter is 32 cm. **[NCERT]**

**Q.2** The sides of a triangular plot are in the ratio of 3 : 5 : 7 and its perimeter is 300 m. Find its area. **[NCERT]**

**Q.3** An isosceles triangle has perimeter 30 cm and each of the equal sides is 12 cm. Find the area of the triangle. **[NCERT]**

**Q.4** Find the perimeter of equilateral triangle whose area is $36\sqrt{3}$ cm$^2$.

**Q.5** The base of a right triangle is 48 cm and its hypotenuse is 50 cm long. Find the area of the triangle.

**Q.6** If the height of an equilateral triangle is 6 cm. Then find its area.

**Q.7** The area of an equilateral triangle is $81\sqrt{3}$ cm$^2$. Find its height.

**Q.8** Find the area of $\Delta ABC$ in which BC = 8 cm, AC = 15 cm and AB = 17 cm. Find the length of altitude drawn on AB.

**Q.9** If the difference between the semi-perimeter and the sides of a $\Delta ABC$ are 8 cm, 7 cm and 5 cm respectively. Then find the area of the triangle.

## B. Long Answer Type Questions

**Q.10** Two parallel side of a trapezium are 60 cm and 77 cm and other sides are 25 cm and 26 cm. Find the area of the trapezium.

**Q.11** The sides of a quadrilateral, taken in order are 5, 12, 14 and 15 metres respectively and the angle contained by the first two sides is a right angle. Find its area.

**Q.12** Find the area of a cyclic quadrilateral whose sides are 40 cm, 75 cm, 77 cm and 36 cm respectively.

**Q.13** Find the ratio of the area of a square to that of the square drawn on its diagonal.

**Q.14** The adjacent sides of a parallelogram are 24 cm and 32 cm. If the distance between the longer sides is 17.4 cm, determine the distance between the shorter sides.

**Q.15** The lengths of the sides of triangle ABC are in the ratio 4 : 3 : 5, and its perimeter is 144 cm. Find the height corresponding to the longest side.

**Q.16** Two parallel sides of a trapezium are 60 cm and 77 cm and other sides are 25 cm and 26 cm. Find the area of the trapezium.

**Q.17** A field is in the shape of a trapezium whose parallel sides are 50 m and 15 m. The non-parallel sides are 20 m and 25 m. Prove that the area of the trapezium is $\frac{1300\sqrt{6}}{7}$ m$^2$.

## ANSWER KEY

**1.** $8\sqrt{30}\ \text{cm}^2$ **2.** $1500\sqrt{3}\ \text{m}^2$ **3.** 34.83 $\text{cm}^2$ **4.** 36 cm **5.** 336 $\text{cm}^2$

**6.** $12\sqrt{3}\ \text{cm}^2$ **7.** $9\sqrt{3}\ \text{cm}$ **8.** 7.04 cm **9.** $20\sqrt{14}\ \text{cm}^2$ **10.** 1644 $\text{cm}^2$

**11.** 114 $\text{m}^2$ **12.** 2886 $\text{cm}^2$ **13.** 1 : 2 **14.** 23.2 cm **15.** 28.8 cm

**16.** 1644 $\text{cm}^2$ **17.** $\left\{\begin{matrix}\text{Area of } \Delta ABC = 22627.41\text{m}^2 \\ \text{Area of } \Delta ACD = 38400\text{m}^2\end{matrix}\right\}$

## EXERCISE # 2

### A. Very short Answer Type Questions

**Q.1** Find the area of a triangle whose sides are respectively 150 cm, 120 cm and 200 cm.

**Q.2** In a ΔABC it is given that base = 12 cm and height = 5 cm. Find its area.

**Q.3** Find the area of a triangle whose sides are 9 cm, 12 cm and 15 cm.

**Q.4** The lengths of three sides of a triangle are 20 cm, 16 cm and 12 cm. Then find the area of the triangle.

**Q.5** The base of an isosceles triangle is 6 cm and each of its equal sides is 5 cm. Then find the height of the triangle.

**Q.6** Each of the two equal sides of an isosceles right triangle is 10 cm long. Then find its area.

### B. Short Answer Type Questions

**Q.7** The perimeters of a right triangle is 450 m. If its sides are in the ratio 13 : 12 : 5. Find the area of the triangle.

**Q.8** Using Heron's formula find the area of an isosceles triangle whose one of the equal sides is 16 cm and third side is 10 cm.

**Q.9** The perimeter of a right triangle is 144 cm and its hypotenuse measures 65 cm. Find the lengths of other sides and calculate its area. Verify the result using Hero's formula.

**Q.10** The perimeter of a right triangles is 12 cm and its hypotenuse is of length 5 cm. Fine the other two sides and calculate its area.

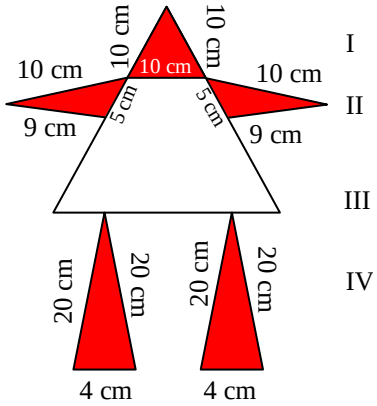
### C. Long Answer Type Questions

**Q.11** The sides of a quadrangular field, taken is order are 26m, 27m, 7m, and 24m respectively. The angle contained by the last two sides is a right angle. Find its Area.

**Q.12** An isosceles right triangle has an area 200 $cm^2$. What is the length of its hypotenuse?

**Q.13** The sides of a triangle are of lengths 10 cm, 15 cm and 15 cm. Find the length of the altitude drawn on the side with length 15 cm.

**Q.14** Suman made a picture with some white paper and a single coloured paper as shown in figure. White paper is available at her home and free of cost. The cost of coloured paper used is at the rate of 10 p per $cm^2$. Find the total cost of the coloured paper used.
(Take $\sqrt{3}$ = 1.732 and $\sqrt{11}$ = 3.31)




**Q.15** If each of the equal sides of an isosceles triangle measures 2 cm more than its height and the base of the triangle measures 12 cm, then find the area of the triangle.

## ANSWER KEY

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|---|---|---|---|---|
| **1.** 8966.56 $cm^2$ | **2.** 30 $cm^2$ | **3.** 54 $cm^2$ | **4.** 96 $cm^2$ | **5.** 4 cm |
| **6.** 50 $cm^2$ | **7.** 6750 $m^2$ | **8.** $5\sqrt{231}$ $cm^2$ | **9.** 16 cm, 63 cm, 504 $cm^2$ | **10.** 3 cm, 4 cm; 6 $cm^2$ |
| **11.** 375.8 $m^2$ | **12.** $20\sqrt{2}$ cm | **13.** 9.42 cm | **14.** 8 cm or 6 cm | **15.** 48 $cm^2$ |