WORKSHEET 12

1. The lengths of the sides of a triangle are in the ratio 3 : 4 : 5 and its perimeter is 144 cm. Find
   (*i*) the area of the triangle.
   (*ii*) the height corresponding to the longest side.

2. Find the area of an isosceles triangle each of whose equal sides is 13 cm and whose base is 24 cm.

3. Find the area of a quadrilateral ABCD whose sides are 9 m, 40 m, 28 m and 15 m respectively and the angle between the first two sides is a right triangle.

4. A field is in the shape of a trapezium whose parallel sides are 25 m and 10 m. The non-parallel sides are 14 m and 13 m. Find the area of the field.

5. Find the area of a triangle whose sides are
   (*i*) 150 cm, 120 cm and 200 cm.
   (*ii*) 9 cm, 12 cm and 15 cm.
   (*iii*) 15 cm, 13 cm and 14 cm.

6. Find the area of a quadrilateral ABCD in which AB = 3 cm, BC = 4 cm, CD = 4 cm, DA = 5 cm and AC = 5 cm.

7. The perimeter of a triangular field is 540 m and its sides are in the ratio 25 : 17 : 12. Find the area of the triangle.

8. A triangle and a parallelogram have the same base and the same area. If the sides of the triangle are 26 cm, 28 cm and 30 cm, and the parallelogram stands on the base 28 cm, find the height of the parallelogram.

9. The perimeter of an isosceles triangle is 42 cm and its base is $1\frac{1}{2}$ times each of the equal sides.

   Find
   (*i*) the length of each side of the triangle.
   (*ii*) the area of the triangle.
   (*iii*) the height of the triangle.

10. The height of an equilateral triangle is 6 cm. Find the area of the triangle.

11. The difference between the sides at right angles in a right-angled triangle is 14 cm. The area of the triangle is 120 cm^2. Calculate the perimeter of the triangle.

12. Find the perimeter and area of the quadrilateral ABCD in which AB = 17 cm, AD = 9 cm, CD = 12 cm, ∠ACB = 90° and AC = 15 cm.
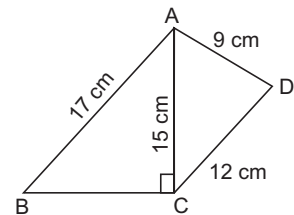
13. The rhombus shaped field has green grass for 18 cows to graze. If each side of the rhombus is 30 m and its longer diagonal is 48 m, how much area of grass field will each cow be grazing?
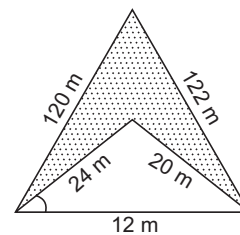
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14. Calculate the area of the shaded region in the following figure:

15. Find the cost of laying grass in a triangular field of sides 50 m, 65 m and 65 m at the rate of ₹ 7 per m².

16. If each side of a triangle is doubled, then find the ratio of area of the new triangle thus formed and the given triangle.

17. The sides of a triangular field are 41 m, 40 m, and 9 m. Find the number of rose beds that can be prepared in the field, if each rose bed, on an average needs 900 cm² space.

18. The base of an isosceles triangle measures 24 cm and its area is 192 cm². Find its perimeter.

19. An umbrella is made by stitching 10 triangular pieces of cloth of two different colours, each piece measuring 20 cm, 50 cm and 50 cm. How much cloth of each colour is required for the umbrella?
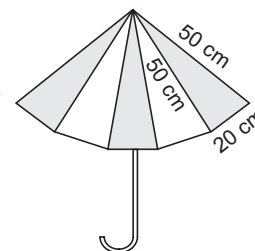
20. How much paper of each shade is needed to make a kite in the given figure in which ABCD is a square with diagonal 44 cm?
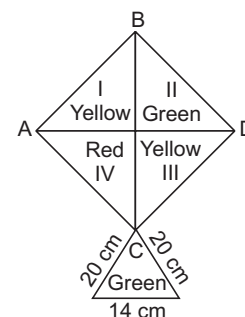
ANSWERS

1. (*i*) 864 cm^2 (*ii*) 28.8 cm
2. 60 cm^2
3. 306 m^2
4. 196 m^2
5. (*i*) 8966.56 cm^2 (*ii*) 54 cm^2 (*iii*) $21\sqrt{11}$ cm^2
6. 15.16 cm^2
7. 9000 m^2
8. 12 cm
9. (*i*) 12 cm   (*ii*) 12 cm   (*iii*) 18 cm
10. 20.784 cm^2
11. 60 cm
12. Perimeter = 46 cm, Area = 114 cm^2
13. 48 m^2
14. 1074 m^2
15. ₹ 10500
16. 4 : 1
17. 2000
18. 64 cm
19. $1000\sqrt{6}$ cm^2
20. Yellow : 484 m^2

     Red : 242 m^2

     Green : 373.04 m^2