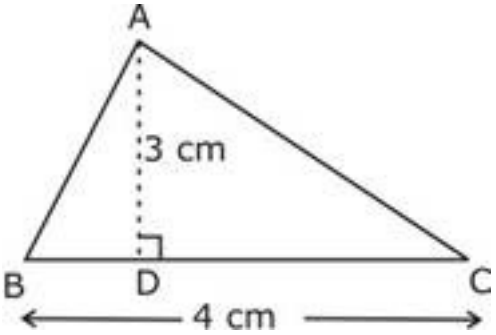
CBSE Worksheet-1

CLASS –VII Mathematics (Perimeter and Area)

Choose correct option in questions 1 to 4.

1. Find the area of following triangle:



   a. 6 cm^2

   b. 5 cm^2

   c. 4 cm^2

   d. 3 cm^2

2. A door frame of dimensions 4 m × 5 m is fixed on the wall of dimension 11 m × 11 m. Find the total labour charges for painting the wall if the labour charges for painting 1m^2 of the wall is Rs 2.50.

   a. Rs. 200

   b. Rs. 252.50

   c. Rs. 300

   d. Rs. 350

3. What is the circumference of a circle of diameter 10cm?

   a. 30 cm

   b. 35 cm

   c. 31.4 cm

   d. none of these

4. Find the breadth of a rectangular plot of land, if its area is 440 m^2 and the length is 22m.

   a. 5 m

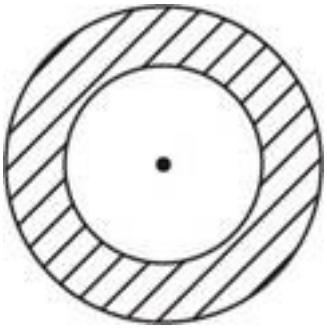
   b. 10 m

   c. 15 m

d. 20 m

Fill in the blanks:

5. The _____ is the distance around a given two-dimensional object.
6. If we cut a square along one of its diagonals, two triangles are obtained. Area of each triangle obtained = _____.
7. Length of rectangle = $\frac{?}{\text{Breadth of rectangle}}$
8. State true or false: All triangles equal in area are congruent.
9. A rectangular garden is 66 cm long and 50 cm wide. Two cross paths each 2 m wide are to be constructed parallel to the sides. If these paths pass through the centre of the garden, find the cost of constructing the paths at the rate Rs. 69 per m^2.
10. The figure given below, shows two circles with the same centre. The radius of the larger circle is 10 cm and the radius of the smaller circle is 4 cm.
    Find:
    a. the area of the larger circle,
    b. the area of the smaller circle,
    c. the shaded area between the two circles (Take $\pi = 3.14$)



11. A wire is in the shape of a square of side 10 cm. If the wire is bent again into a rectangle of length 12 cm, find its breadth. Which encloses more area - the square or the rectangle?

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Answer key

1. a

   Explanation:

   Area of the triangle = $\frac{1}{2} \times \text{base} \times \text{height} = \frac{1}{2} \times 4 \times 3 = 6\text{cm}^2$
2. b

   Explanation: Area of the wall = 11 × 11 = 121 m^2

   Area of the door frame = 4 × 5 = 20 m^2

   Area of the portion to be painted = 121 - 20 = 101 m^2

   Cost of painting = 101 × 2.50 = Rs. 252.50
3. c

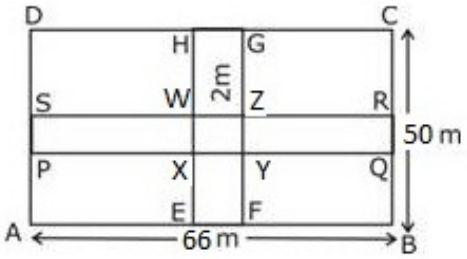
   Explanation: Circumference = π × diameter = 3.14 × 10 = 31.4 cm
4. d

   Explanation: Area of the rectangle = length × breadth = 440 m^2

   22 × breadth = 440

   breadth = 20 m
5. perimeter
6. $\frac{1}{4}$ × Area of the square
7. Area of rectangle
8. False
9. Rs. 15732

   Explanation:



   Area of the path = area of the rectangle EFGH + area of the rectangle PQRS - area of the square XYZW

   Area of the rectangle EFGH = 50 × 2 = 100 m^2

Area of the rectangle PQRS = 66 × 2 = 132 m^2

Area of the square XYZW = 2 × 2 = 4m^2

Area of the path = 100 + 132 - 4 = 228 m^2

Cost of constructing the path = 228 × 69 = Rs. 15732

10. a. Area of larger circle = 314cm^2

    b. Area of smaller circle = 50.24cm^2

    c. Area of shaded region = (314 - 50.24) cm^2 = 263.76 cm^2

    Explanation: Area of the larger circle = × $radius^2$ = 3.14 × 10^2 = 3.14 × 100 = 314cm^2

    Area of the smaller circle = × $radius^2$ = 3.14 × 4^2 = 3.14 × 16 = 50.24 cm^2

    Area of the shaded portion = 314 - 50.224 = 263.76 cm^2

11. Area of square is greater than the area of rectangle

    Explanation: Since the same wire is used to make and square and rectangle, the perimeter of both the shapes will be same

    Perimeter of the square = 4 × side = 4 × 10 = 40 cm

    Perimeter of the rectangle = 2 (length + breadth) = 2 (12 + breadth) = 40

    12 + breadth = 20

    breadth = 20 - 12 = 8cm

    Area of the square = side × side = 10 × 10 = 100 cm^2

    Area of the rectangle = length × breadth = 12 × 8 = 96 cm^2

    Area of square is greater than the area of rectangle