SHIKSHA CLASSES

Sub. : Maths | **Question Paper** | **Marks : 20**

Std. : VIIIth - S.B. | **15. Area** | **Time : 45 min.**

Q.1 : A) Select the most appropriate Alternative. 02

1) If the radius of a circle is 21 cm, then the area of the circle is.

a) 1386 sq cm b) 1368 sq cm c) 441 sq cm d) 1441 sq cm

2) 1 acre is nearly.

a) 0.5 hectare b) 0.4 hectare c) 0.2 hectare d) 1 hectare

: B) Solve the following. 01

1) Lengths of the diagonals of a rhombus are 15cm and 24 cm, find its area.

Q.2 : A) Solve any one of the following. (Activity) **02**

1) **Fill in the blanks :** If radius of a circle is 21 cm then find its area.

$\rightarrow$ Area of circle $= \pi r^2$

$= \frac{22}{7} \times \square$

$= \frac{22}{7} \times \frac{\square}{1} \times \frac{\square}{1}$

$= 66 \times \square = 1386$ sq cm.

2) **Fill in the blanks :** Lengths of the diagonals of a rhombus are 11.2 cm and 7.5 cm respectively. Find the area of rhombus.

$\rightarrow$ Area of a rhombus $= \frac{1}{2} \times \square$

$= \frac{1}{2} \times \frac{11.2}{1} \times \frac{\square}{1}$

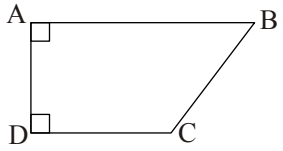
$= 5.6 \times \square$

$= \square$ sq cm

: B) Solve any one of the following. 02

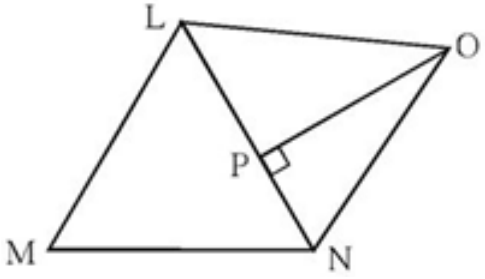
1) Find the area of the circle if its circumference is 88 cm.

2) In $\square ABCD$, $l(AB) = 13$ cm, $l(DC) = 9$ cm, $l(AD) = 8$ cm, find the area of $\square ABCD$.



Q.3 : A) Solve any one of the following.(Activity) 03

1) The figure of a plot and its measures are given.
$l(LM) = 60$ m. $l(MN) = 60$ m. $l(LN) = 96$ m. $l(OP) = 70$ m. find the area of the plot.



Ans : In the figure we get two triangles, ΔLMN and ΔLNO. We know the lengths of all sides of ΔLMN so by using Heron's formula we will find the area of this triangle. In ΔLNO, side LN is the base and $l(OP)$ is the height. We will find the area of ΔLNO.

Semiperimeter of ΔLMN,

$$s = \frac{60 + 60 + 96}{2} = \frac{216}{2} = 108 \text{ m}$$

$\therefore$ Area of ΔLMN

$$= \sqrt{108(108-60)(108-60)(108-96)}$$

$$= \sqrt{108 \times 48 \times \square \times 12}$$

$$= \sqrt{12 \times 9 \times 48 \times \square \times 12}$$

$$A(\Delta LMN) = 12 \times 3 \times \square = \square \text{ sq m}$$

$$A(\Delta LNO) = \frac{1}{2} \text{ base} \times \text{height}$$

$$= \frac{1}{2} \times 96 \times 70$$

$$= 96 \times \square = 3360 \text{ sq m}$$

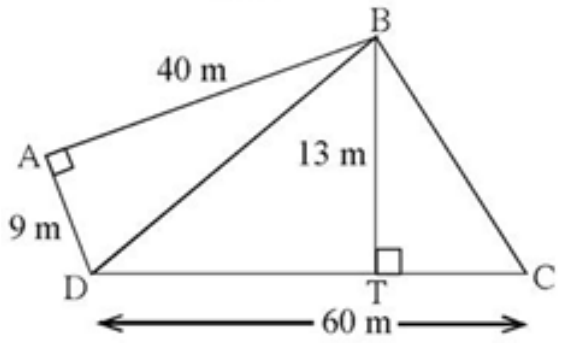
Area of $\square LMNO = A(\Delta LMN) + A(\Delta LNO)$

$$= \square + 3360$$

= 5088 sq m

Area of the plot LMNO is 5088 sq m

2) Some measures are given in the adjacent figure, find the area of □ABCD.



Ans : $l(BA) = 40$ m, $l(AD) = 9$ m,

$l(DC) = 60$ m and $l(BT) = 13$ m.

$$A(\Delta BAD) = \frac{1}{2} \times l(BA) \times \square$$

$$= \frac{1}{2} \times 40 \times \square$$

$$= \square \text{ sq m.}$$

$$A(\Delta BDC) = \frac{1}{2} \times l(DC) \times l(BT)$$

$$= \frac{1}{2} \times 60 \times \square$$

$$= \square \text{ sq m.}$$

$$A(\square ABCD) = A(\Delta BAD) + \square$$

$$= 180 + 390$$

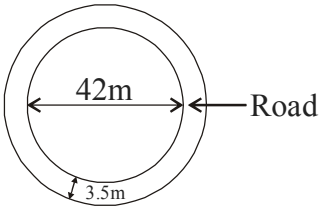
$$= 570 \text{ sq m}$$

Area of □ABCD is 570 sq m.

: B) Solve any one of the following. 03

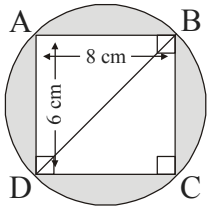
1) Sides of a triangle are 45 cm, 39 cm and 42 cm, find its area.

2) Diameter of the circular garden is 42 m. There is a 3.5 m wide road around the garden. Find the area of the road.

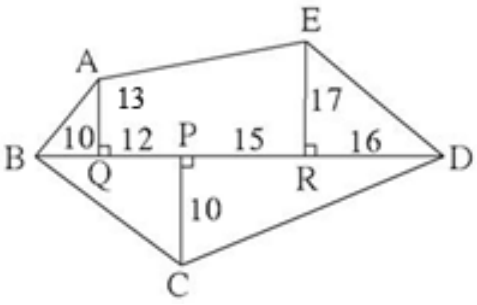


Q.4 : Solve any one of the following. 04

1) In figure. Find the area of the shaded region. [Use $\pi = 3.14$]

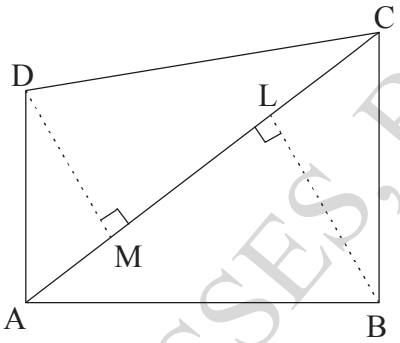


2) Adjacent figure is a polygon ABCDE. All given measures are in metre. Find the area of the given figure.



Q.5 : Solve any one of the following. 03

1) The diagonal of a quadrilateral is 20m in length and the perpendiculars to it from the opposite vertices are 8.5m and 11m. Find the area of the quadrilateral.



2) Area of a rhombus is 96 sq cm. One of the diagonals is 12 cm find the length of its side.

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