SNS ACADEMY

Areas related to circle

10th Standard

Maths

Exam Time : 00:02:00 Hrs

Reg.No. :

Total Marks : 40

10 x 4 = 40

1) In figure, PQRS is square lawn with side PQ = 42 metre. Two circular flower beds are there on the sides PS and QR with centre at O, the intersection of its diagonals. Find the total area of the two flower beds (shaded parts).

2) Two circular beads of different sizes are joined together such that the distance between their centres is 14 cm. The sum of their areas is 130 πcm^2. Find the radius each bead.

3) In the figure, ABC is a right angled triangle right angled at $\angle A$. Find the area of the shaded region, if AB = 6 cm, BC = 10 cm and O is the centre of the incircle of the triangle ABC.

4) A round thali has 2 inbuilt triangular for serving vegetables and a separate semi-circular area for keeping rice or chapati. If radius of thali is 21 cm, find the area of the thali that is shaded in the figure.

5) The diameters of the front and rear wheels of a tractor are 80 cm and 200 cm respectively. Find the number of revolutions of rear wheel to cover the distance which the front wheel covers in 800 revolutions.

6) In fig., AC = BD = 7 cm and AB = CD = 1.75 cm. Semi-circles are drawn as shown in the figure. Find the area of the shaded region. [use $\pi = \frac{22}{7}$]

7) A child prepares a poster on "save water" on a square sheet whose each side measures 50 cm. At each corner of the sheet, she draws a quadrant of radius 15 cm in which she shows the ways to save water. At the centre, she draws a circle of diameter 21 cm and writes a slogan save water in it. Find the area of the remaining sheet. Write the value depicted.

8) A farmer has field of length 20 m and breadth 14 m. By the farmer a well of diameter 7 mis dug 10 m deep for villagers. The earth taken out is spread in the field. Find the level rise in the field. Write the value depicted.

9) The adjoining figure depicts an archery target marked with its five scoring areas from the centre outwards as Gold, Red, Blue, Black and White. The diameter of the region representing Gold score is 21 cm and each of the other bands is 10·5 cm wide.

(i) Find the area of each of the five scoring regions.

(ii) Which mathematical concept is used in the above problem?

(iii) What is its value?

10) Find the area of the shaded region in fig., where $\overgroup{APD}$, $\overgroup{AQB}$, $\overgroup{BRC}$ and $\overgroup{CSD}$ are semicircles of diameter 14 cm, 3.5, 7 cm and 3.5 cm respectively. $\left[Use\ \pi = \frac{22}{7} \right]$.

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