CBSE 10th Areas Related to Circles Unsolved Paper

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Unsolved Paper

Q.1. The wheels of a car are of diameter 80 cm each. How many complete revolutions does each wheel make in 10 minutes when the car is traveling at a speed of 66 km per hour?

$$\left[use\ \pi = \frac{22}{7} \right]$$

Q.2. Find the area of a quadrant of a circle whose circumference is 22 cm. $use\ \pi = \frac{22}{7}$

Q.3. The length of the minute hand of a clock is 14 cm. Find the area swept by the minute hand in 5 minutes. $use\ \pi = \frac{22}{7}$

Q.4. In a circle of radius 21 cm, an arc subtends an angle of 60° at the centre. Find:
  (i) The length of the arc
  (ii) Area of the sector formed by the arc
  (iii) Area of the segment forced by the corresponding chord

  $use\ \pi = \frac{22}{7}$

Q.5. A chord of a circle of radius 12 cm subtends an angle of 120° at the centre. Find the area of the corresponding segment of the circle.

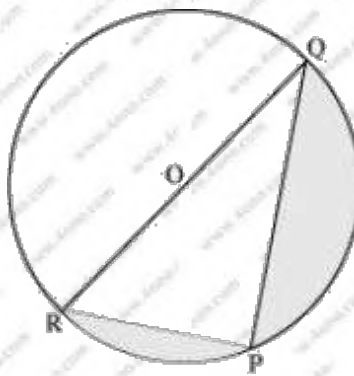 **[use $\pi = 3.14$ and $\sqrt{3} = 1.73$]**

Q.6. A round table cover has six equal designs as shown in figure. If the radius of the cover is 28 cm, find the cost of making the designs at the rate of Rs.0.35 per cm^2.
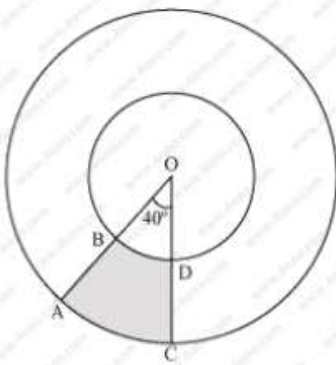 **$Use\ \sqrt{3} = 1.73$**

Q.7. Find the area of the shaded region in the given figure, if PQ = 24 cm, PR = 7 cm and O is the centre of the circle.

$$\left[\text{use } \pi = \frac{22}{7}\right]$$

Q.8. Find the area of the shaded region in the given figure, if radii of the two concentric circles with centre O are 7 cm and 14 cm respectively and ∠AOC = 40°.
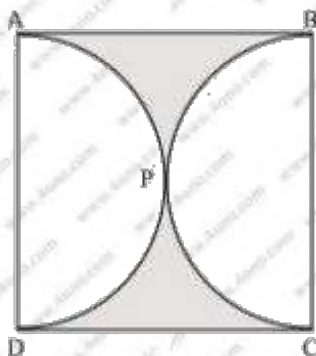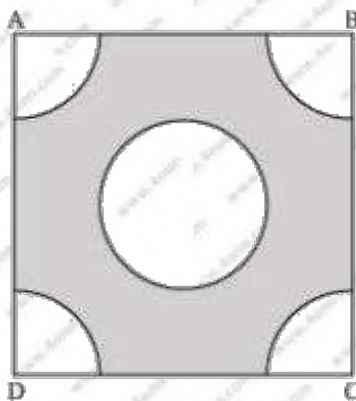
$$\left[\text{use } \pi = \frac{22}{7}\right]$$

Q.9. Find the area of the shaded region in the given figure, if ABCD is a square of side 14 cm and APD and BPC are semicircles.

$$\left[\text{use } \pi = \frac{22}{7}\right]$$

Q.10. From each corner of a square of side 4 cm a quadrant of a circle of radius 1 cm is cut and also a circle of diameter 2 cm is cut as shown in the given figure. Find the area of the remaining portion of the square.

$$\left[\text{use } \pi = \frac{22}{7}\right]$$

Q.11. In the given figure, ABCD is a square of side 14 cm. With centres A, B, C and D, four circles are drawn such that each circle touches externally two of the remaining three circles. Find the area of the shaded region.

$$\left[\text{use } \pi = \frac{22}{7}\right]$$
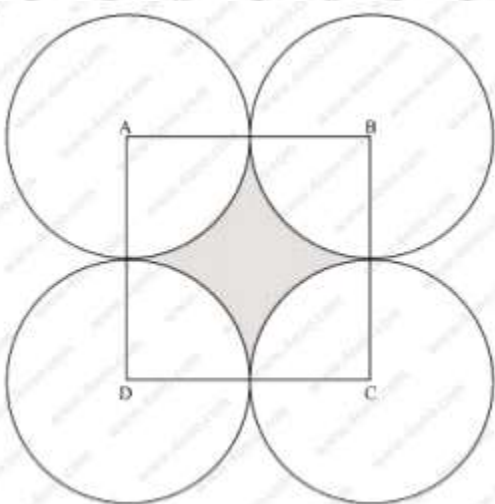
**Q.12.** Thegivenfigure depicts a racing track whose left and right ends are semicircular.

The distance between the two inner parallel line segments is 60 m and they are each 106 m long. If the track is 10 m wide, find:

(i) The distance around the track along its inner edge

(ii) The area of the track

$$\left[\text{use } \pi = \frac{22}{7}\right]$$

Q.13. The area of an equilateral triangle ABC is 17320.5 cm^2. With each vertex of the triangle as centre, a circle is drawn with radius equal to half the length of the side of the triangle (See the given figure). Find the area of shaded region. [Use $\pi = 3.14$ and $\sqrt{3} = 1.73205$]
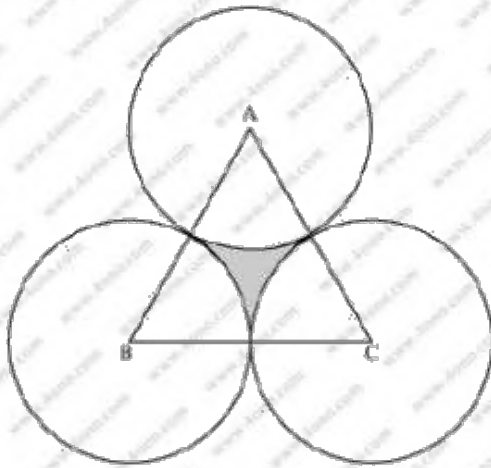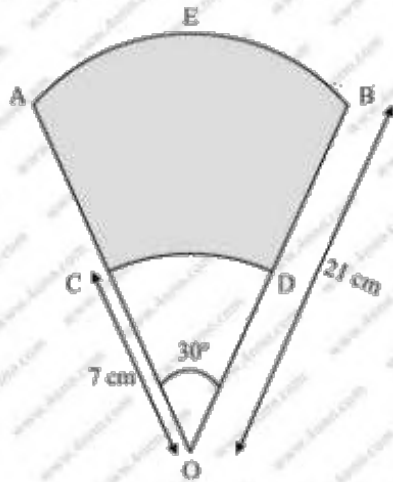
Q.14. In the given figure, a square OABC is inscribed in a quadrant OPBQ. If OA = 20 cm, find the area of the shaded region. [Use $\pi = 3.14$]
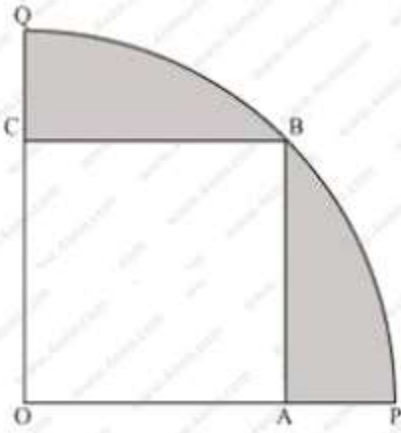
Q.15. AB and CD are respectively arcs of two concentric circles of radii 21 cm and 7 cm and centre O (see the given figure). If ∠AOB = 30°, find the area of the shaded region.

$$\left[\text{use } \pi = \frac{22}{7} \right]$$

Q.16. The circumference of a circle exceeds diameter by 16.8 cm. Find the circumference of circle.

Q.17. The circumference of two circles are in ratio 2:3. Find the ratio of their areas

Q.18. The sum of the radii of two circles is 140 cm and the difference of their circumferences in 88 cm. Find the diameters of the circles.

Q.19. If a square is inscribed in a circle, find the ratio of areas of the circle and the square.
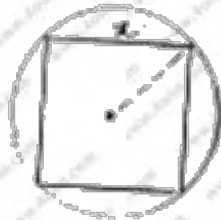
Q.20. Find in terms of x the length of the arc that subtends an angle of 30°, at the centre of circle of radius 4 cm.

Q.22. In circle of radius 6cm, chord of length 10 cm makes an angle of 110° at the centre of circle find (i) Circumference of the circle
(ii) Area of the circle
(iii) Length of arc
(iv) The area of sector

Q.23. AB is a chord of a circle with centre O and radius 4cm. AB is length 4cm and divides circle into two segments. Find the area of minor segment

Q.24. A plot is in the form of rectangle ABCD having semi-circle on BC. If AB = 60m and BC = 28m, find the area of plot.

Q.25. A rectangular piece is 20m long and 15m wide from its four corners, quadrants of 3.5m radius have been cut. Find the area of remaining part.

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