## I. Very Short Answer Type Questions

1. Find the radius of a circle, if an arc of angle 120° has length of 24π cm.
2. The radius of a circle is 24 cm and an arc of it has length 8π cm. Find the angle subtended by this arc at the centre of the circle.
3. Find the area of the sector in the following figure showing a chord AB of a circle of radius 18 cm subtending an angle of 60° at the centre O.   [Take π = 3.14]
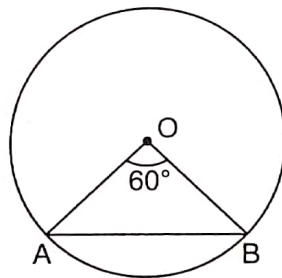
4. In a circle of radius 63 cm, an arc subtends an angle of $60°$ at the centre. Find the length of the arc.

5. The length of the minute hand of a clock is 14 cm. Find the area swept by the minute hand in:
    (i) one minute   (ii) eight minutes.

6. A sector is cut from a circle of diameter 21 cm. If the angle of the sector is $150°$, find its area.

7. Find the area of the minor segment of a circle of radius 28 cm, when the angle of the corresponding sector is $45°$.

II. Short Answer Type Questions-I

8. The minute hand of a clock is 8 cm long. Find the area swept by the minute hand between 8.30 a.m. and 9.05 a.m.

9. A chord AB of a circle of radius 20 cm subtends a right angle at the centre. Find the areas of the minor sector and of the major-sector.

10. The following figure represents the area swept by a wiper of car.
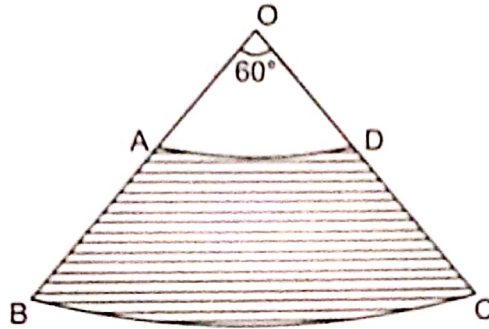
   If OA = 21 cm and AB = 14 cm, find the area and the perimeter of the area swept (shaded portion).

11. Find the area of the shaded region in the given figure, if AC = 24 cm, BC = 10 cm and O is the centre of the circle.

   (Take $\pi = 3.14$)
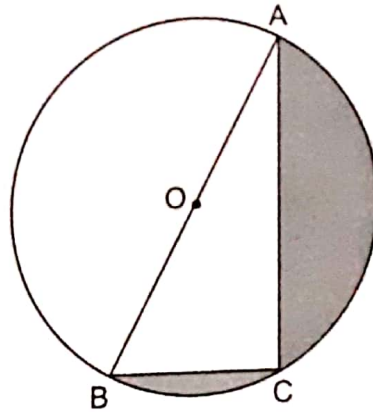
12. What is the area of a sector of a circle whose radius is r and length of the arc is l?

13. Area of the sector of central angle $200°$ of a circle is 770 cm^2. Find the length of the corresponding arc of this sector.

14. In figure, a square OABC is inscribed in a quadrant OPBQ of a circle. If OA = 20 cm, find the area of the shaded region. [Use $\pi = 3.14$]
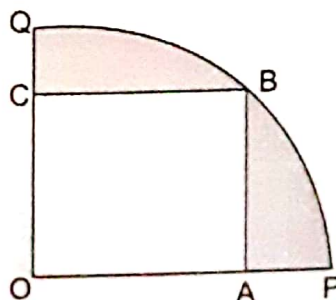
15. In figure, OABC is a quadrant of a circle of radius 7 cm. If OD = 4 cm, find the area of the shaded region. [Use $\pi = \frac{22}{7}$]
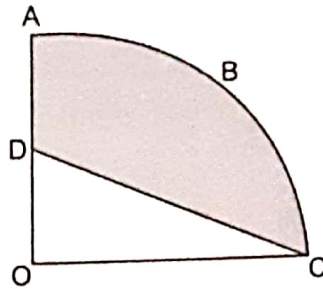
16. Two circular pieces of equal radii and maximum area, touching each other are cut out from a rectangular cardboard of dimensions 14 cm × 7 cm. Find the area of the remaining cardboard.

17. What is the angle subtended at the centre of a circle of radius 5 cm by an arc length 4π cm?

18. In a circle of radius 8 cm, an arc subtends an angle of 108° at the centre. What is the area of the sector in terms of π?

19. What is the length of an arc in terms of π that subtends an angle of 72° at the centre of a circle of radius 10 cm?

20. In figure, OABC is a square of side 7 cm. If OAPC is a quadrant of a circle with centre O, then find the area of the shaded region. [Use $\pi = \frac{22}{7}$]
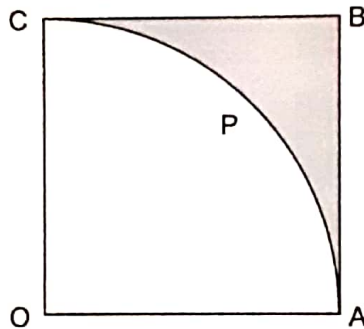
21. From a rectangular sheet of paper ABCD with AB = 40 cm and AD = 28 cm, semicircular portion with BC as diameter is cut off. Find the area of the remaining paper. [Use $\pi = \frac{22}{7}$]