# INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2023-24

CLASS: X   SUBJECT: MATHEMATICS   DATE:20-10-2023

LESSON:12 – AREAS RELATED TO CIRCLES

1. The circumference of two circles are in the ratio4: 5. What is the ratio of their radii?   (Ans: 4: 5)

2. Area of a quadrant of a circle of radius 7 cm is -----   (Ans: $\frac{77}{2}$)

3. The minute hand of a clock is 12cm long. Find the area of the face of the clock described by the minute hand in 35min.   (Ans: 264cm²)

4. The radius of a circle is 17.5cm. Find the area of the sector of the circle enclosed by two radii and an arc 44cm in length   (Ans: 385cm²)

5. A chord AB of a circle of radius 14cm makes an angle of 60° at the centre of the circle. Find the area of the minor segment of the circle($\pi = \frac{22}{7}$)

     (Ans: 17.80cm²)

6. The minute hand of a clock is 84cm long. The distance covered by the tip of minute hand from 10:10 am to 10:25 am is   (132cm)

7. The area of the largest triangle that can be inscribed in a semi- circle of radius 'r' units is   (r² square units)

8. Find the area of the minor segment of a circle of radius 42cm, if length of the corresponding arc is 44cm.   (Ans: 21(44-21√3)cm²)

9. The perimeter of a sector of a circle of radius 5.2cm is 16.4 cm. Find the area of the sector   (Ans: 15.6 square units)

10. In the given figure AB is a chord of a circle of radius 7cm centred at O. Find the area of the shaded region if ∠AOB = 90°. Also, find the length of the minor arc AB   (14cm²,11cm)
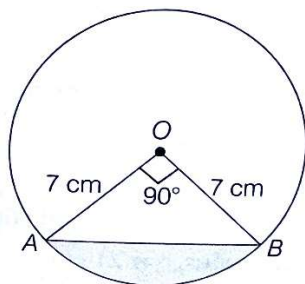
11. In the given figure, AB and CD are diameters of a circle with centre O perpendicular to each other. If OA = 7cm, find the area of the shaded region
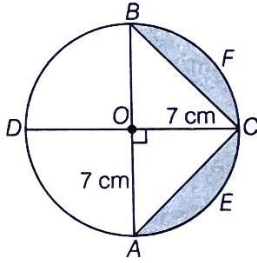
12. AB is a chord of a circle with centre O and radius 4cm. AB is of length 4cm.Find the area of the sector of the circle formed by the chord AB.

(Ans: $\frac{8\pi}{3}$ cm²)

13. A square park has each side of 100m.At each corner of the park, there is a flower bed in the form of quadrant of radius 14m as shown in figure. Find the area of the remaining part of the park (use $\pi = \frac{22}{7}$)
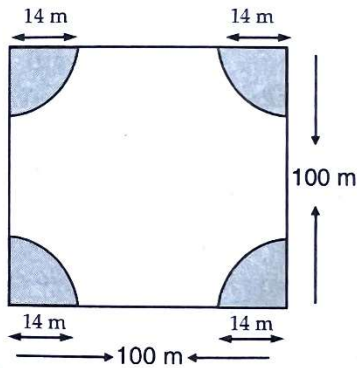
(Ans: 9384m²)

14. ABCDEF is a regular hexagon with vertices A,B,C,D,E,F as the centres, circles of same radius 'r' are drawn. Find the area of the shaded portion shown in the given figure.   (Ans: 2πr²)

****