AREAS RELATED TO CIRCLES

SECTION A: (1 MARK)

1.	If area of a circle is numerically double its perimeter, then find the radius of the circle. (CBSE 2011)	(4 units)
2.	If the area of a sector is 5/18 of the area of the circle, find the angle subtended by the sector at the centre.	(100°)
3.	If the diameter of a semicircular protractor is 14 cm, then find its perimeter. (CBSE 2009)	(36 cm)
<u>SECTION B</u> : (2 MARKS)		
4.	A square is inscribed in a circle. What is the ratio of the areas of the circle and the square.	(π:2)

- 5. The area enclosed between the two concentric circles is 346.5 cm2. The (17.5 cm) circumference of the inner circle is 88 cm. Find the radius of the outer circle. (CBSE 2011)
- 6. Find the number of revolutions made by a circular wheel of area 1.54 cm² in rolling a (40) distance of 176 cm. (CBSE 2013)
- 7. If r and R are the respective radii of the smaller and bigger semi-circles, find the area (πR^2) of the shaded portion. (CBSE 2010)



SECTION C: (3 MARKS)

- 8. The long and short hands of a clock are 6 cm and 4 cm long respectively. Find the (954.56cm) sum of the distances travelled by their tips in 24 hours. (Use $\pi = 3.14$)
- **9.** OABC is a rhombus whose three vertices A, B and C lie on a circle with centre O. (2000 $\sqrt{3}$ cm²) Find the area of the rhombus, if the area of the circle is 1256 cm². (Use π = 3.14)
- **10.** ABCD is a field in the shape of a trapezium with AD || BC, $\angle ABC = 90^{\circ}$ and(616 m²) $\angle ADC = 60^{\circ}$. Four sectors are formed with centres A, B, C and D. The radius at each sector is 14 m. Find the total area of four sectors.(CBSE 2012)

11. A steel wire when bent in the form of a square encloses an area of 121 sq. cm. If the (154 cm²) same wire is bent into the form of a circle, find the area of the circle.

SECTION D: (4 MARKS)

- The diameters of front and rear wheels of a tractor are 80 cm and 2 m respectively. (280) Find the number of revolutions that rear wheel will make in covering a distance in which the front wheel makes 1400 revolutions. (CBSE 2013)
- **13.** Find the area of the shaded region for figure 1. $\{(180-8\pi) \text{ cm}^2\}$
- **14.** Find the area of shaded region in fig.2, where a circle of radius 6 cm has been
drawn with vertex O of an equilateral triangle OAB of side 12 cm.
(Use π = 3.14 and $\sqrt{3}$ = 1.73)(EXAMPLAR QUESTION)



In fig.3, ΔABC is right angled at A. Semicircles are drawn on AB, AC and BC as (6 sq. units) diameters. Find the area of shaded region. (CBSE 2014)



Fig.3