INDIAN SCHOOL DARSAIT
DEPARTMENT OF MATHEMATICS
WORKSHEET # 17

Subject : MATHEMATICS	Topic : AREAS RELATED TO CIRCLES	Date of Worksheet : 07/12/2017
Resource Person:Mrs.Indu .P		Date of submission : 14/12/2017
Name of the Student _____	Class &Division:_____	Roll Number : ___

Section A-[Basic skills]

RECALL

Area of a circle =

Circumference of a circle =

Area of a semicircle =

Area of a sector =

Arc length of a sector =

Area of a triangle =

Heron's formula for finding area of a triangle =

Area of a square =

Area of minor segment =

Area of major segment =

Area of equilateral triangle =

Sl.N0.	Section B -[Chapter based questions]	Marks
1.	Pooja has a bicycle whose wheels makes 5000 revolutions in moving 11km.Find the diameter of the wheel.	2
2.	A pendulum swings through an angle 60° and describes an arc 8.8cm in length. Find the length of the pendulum.	2
3.	Three horses are tied with 7m long ropes at the 3 corners of a triangular field having sides 20m,34m,42m. Find the area of the plot which can be grazed by the horses. Also find the area of the plot which remains ungrazed.	4
4.	ABC is a right angled triangle with AB= 6 cm and AC =8 cm. A circle with center O has been inscribed inside the triangle. Find the value of the radius of the inscribed circle.	4
5.	In an equilateral triangle of side 24cm a circle is inscribed touching its sides. Find the area of the remaining portion of the triangle.	3
6.	A park is in the form of a rectangle 120m by 100m.At the center of the park there is a circular lawn. The area of the park excluding the lawn is 11384 sq.m. Find the radius of the circular lawn.	3
7.	An athletic track , 14m widen, consists of two straight sections 120m long joining semicircular ends whose inner radius is 35m.Calculate the area of the track.	3
8.	Area enclosed between two concentric circles is 770 cm^2.If the radius of the outer circle is 21 cm,then find the radius of the inner circle.	3

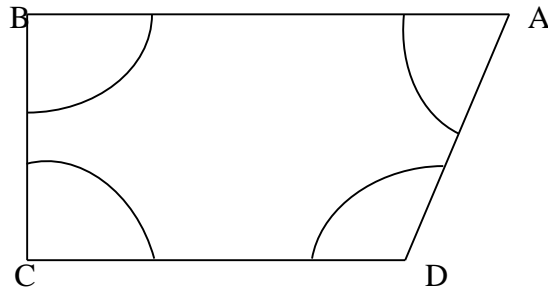9. ABCD is a field in the shape of a trapezium AB || CD and ∠ ABC = 900 , ∠ DAB = 600 . Four sectors are formed with centres A , B , C and D . The radius of each sector is 17.5 m . Find the
   i)total area of four sectors.
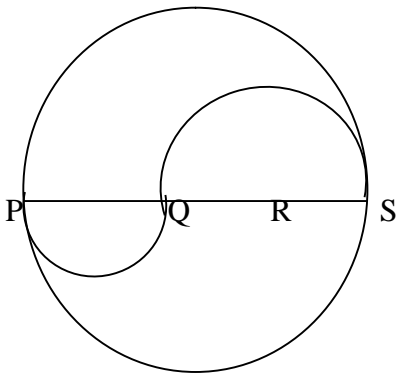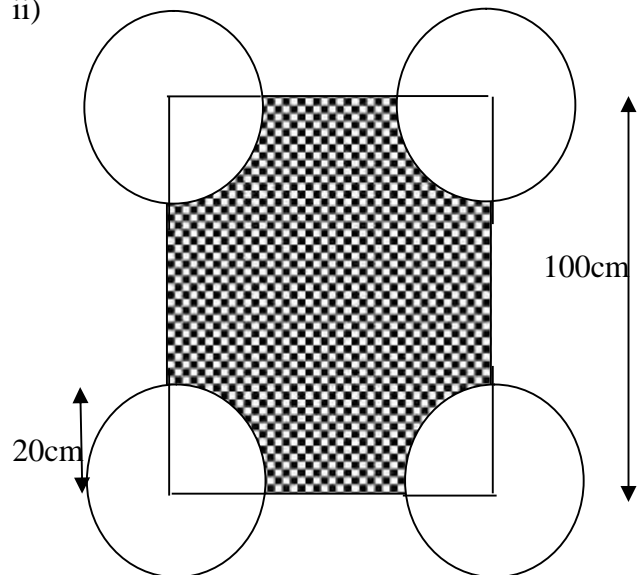   ii)area of the remaining portion given that AB = 75 m and CD = 50 m.

4

10. Find the area of the shaded region in each of the following figures.

3

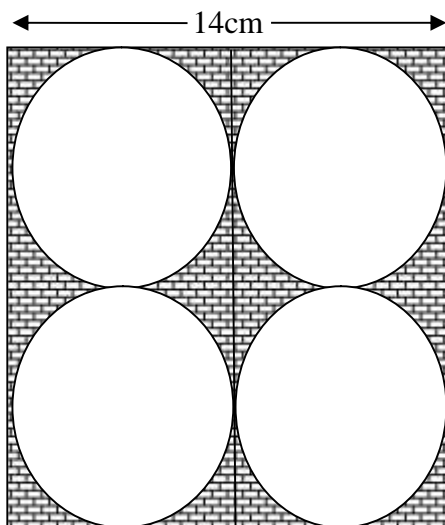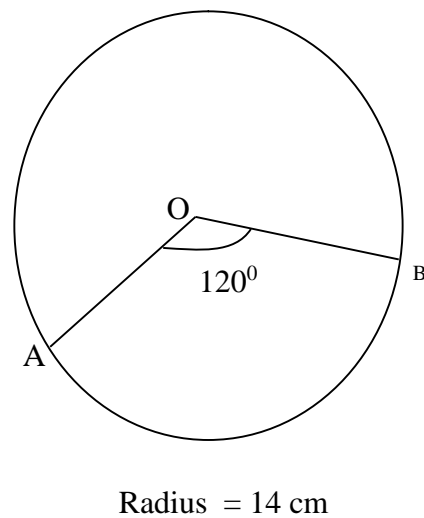i)PQRS is the diameter of a circle.Find perimeter and area of the shaded region
PQ = QR = RS = 4cm

ii)

iv)

iii)

Radius = 14 cm

AEAS RELATED TO CIRCLES [HOT QUESTIONS]

1. A wire is in the shape of a square of perimeter 88 cm is bent so as to form a circular ring. Find the radius of the ring.   2

2. A park is in the form of a rectangle of dimensions 120 m $\times$ 100 m. At the centre of the park there is a circular lawn as shown in the following figure. The area of the park excluding the lawn is 8700 m^2. Find the radius of the circular lawn.   4

   [Use $= \dfrac{22}{7}$]

3. Three horses are tied with 7m long ropes at the 3 corners of a triangular field having sides 20m ,34m , 42m. Find the area of the plot which can be grazed by the horses. Also find the area of the plot which remains ungrazed.   4

4. Figure shows a kite in which BCD is the shape of a quadrant of a circle of radius 42 cm. ABCD is a square and   CEF is an isosceles right angled triangle whose equal sides are 6 cm long. Find the area of the shaded region.   4
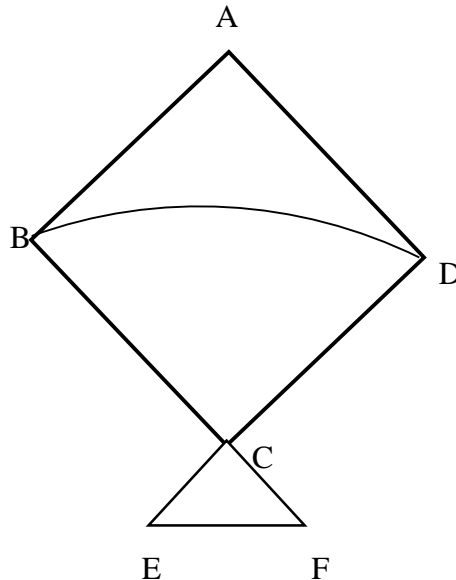
5. An elastic belt is placed round the rim of a pulley of radius 5 cm. One point on the belt is pulled directly away from the centre O of the pulley until it is at P , 10 cm from O. Find the length of the belt that is in contact with the rim of the pulley. Also find the shaded area.   4