Areas Related to Circles

<1M>

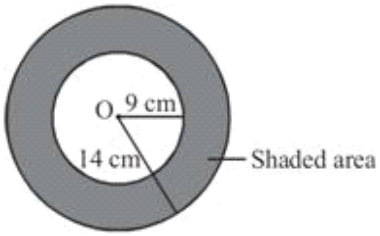
1.If the diameter of circle be d, then area of circle is

(A) πd^2 (B) $d/2^2$ (C) $\frac{\pi d^2}{4}$ (D) None of these

2.Radius of a circle is 42 cm. An arc subtends an angle of 60°. What is the length of arc ?

(A) 22 cm (B) 44 cm (C) 66 cm (D) 88 cm

3.Radii of two concentric circle is 7 cm and 14 cm. The shaded area between them is equal to



(A) 42π (B) 84π (C) 21π (D) None of these

4.The area of a sector of a circle is $\frac{1}{6}$ th of area of circle what is angle made by sector?

(A) 80° (B) 70° (C) 60° (D) None of these

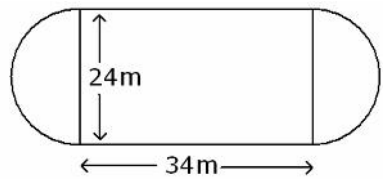
5.The circumference of a circle exceedsits diameter by 16.8 cm. Find the radius of circle.

6.A sector is cut off from a circle of radius 28 cm. The angle of the sector is 120 degrees.Find the length of arc and area.

7.The length of minute hand of a clock is 21 cm. Find the area swept by the clock in 2 minutes.

8.A sheet of paper is in the form of rectangle ABCD in which AB =40 cm and AD = 28 cm . A semi circle portion with BC as diameter is cut off. Find the area of the remaining part of the rectangle.

9.A play ground has the shape of a rectangle, with two semi-circles on its smaller sides as diameter, added to its outside. If the sides of the rectangle are 36m and 24m, find the area of the playground.



10.A chord of a circle of radius 6 cm, subtends an angle 60° with the center A then the area of corresponding segment of the circle is

(A) 3.27 cm^2 (B) 6 cm^2 (C) 6.8 cm^2 (D) None of these

11.A car has two wipers which do not overlap. Each wiper has a blade of length, 25 cm sweeping through an angle of 115º. Find the total area cleaned at each sweep of the blades

(A) 478.29 cm^2 (B) 627.48 cm^2 (C) 444 cm^2 (D) 528 cm^2

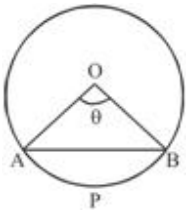
12.The wheel of car is of radius 40 cm each. How many complete revolution does each wheel makes in 20 sec. If the speed of car is 22m/s ?

(A) 500 (B) 150 (C) 175 (D) None of these

13.The length of the minute hand of a clock is 28 cm, and then what is the area swept by the minute hand in 15 minutes?

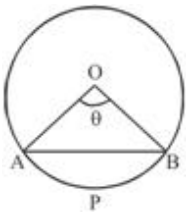
(A) 308 cm^2 (B) 784 cm^2 (C) 896 cm^2 (D) 616cm^2

14.The area of sector OAPB is



(A) $\frac{\pi r^2\theta}{360°}$ (B) $\frac{2\pi r^2\theta}{180°}$ (C) $\frac{\pi r^2\theta^2}{360°}$ (D) None of these

15.The length of arc APB is

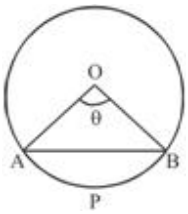


(A) $\frac{2\pi r\theta}{360°}$ (B) $\frac{\pi r^2\theta}{360°}$ (C) $\frac{2\pi r^2\theta}{360°}$ (D) None of these

16.The cost of fencing a circular field at the rate of Rs 12 meter is Rs 2640 find the area of circle

(A) 3300 m^2 (B) 3850 m^2 (C) 4400 m^2 (D) 5500 m^2

17.If the radius of the given figure is 4 cm and angle is 60° the area of segment OAPB is



(A) $\sqrt{\frac{2}{5}\pi}$ (B) $\sqrt{\frac{8}{3}\pi}$ (C) $\sqrt{\frac{4}{3}\pi}$ (D) $4\sqrt{\pi}$

18.The radii of two circle are 3 cm and 4cm. Then the radius of the circle having area equal to the sum of the areas of two circles is equal to

(A) 5 cm (B) 7cm (C) 8 cm (D) none of these

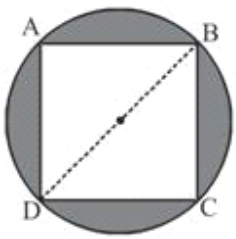
19.The ratio of the areas of the incircle and circumcircle of a square is

(A) 1: $\sqrt{2}$ (B) 1: $\sqrt{3}$ (C) 1:9 (D) 1:2

20.A horse is tied to a peg at center of a field by 10m long rope, then what is the area of grass grazed by the horse ?

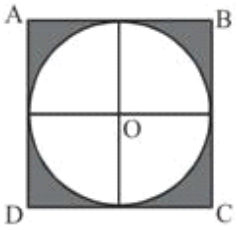
(A) 50 π cm^2 (B) 75 π cm^2 (C) 100 π cm^2 (D) 150 π cm^2

21.Find the area of shaded part of given circle if one side of given square be 10 cm. [take π = 3.14]



(A) 57 cm^2 (B) 114cm^2 (C) 171 cm^2 (D) 228 cm^2

22.In the given figure, if the side of square ABCD is 2 cm. Then what is the area of shaded region ?



(A) 2 - π (B) 7 - π (C) 4 - π (D) 8 - π

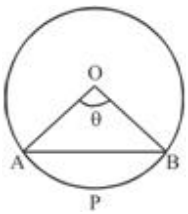
23.An umbrella has 8 ribs which are equally spaced. Assuming umbrella to be a flat circle of radius 42 cm. The area between the two consecutive ribs of the umbrella is equal to

(A) 660 cm^2 (B) 693 cm^2 (C) 770 cm^2 (D) 774 cm^2

24.What is the area between two concentric circles of radii 21 cm and 7cm?

(A) 1156 cm^2 (B) 1232 cm^2 (C) 1330 cm^2 (D) 1460 cm^2

25.The length of segment APB is if angle is 30 degree and radius of circle is 6 cm



(A) π (B) 2π (C) 3π (D) 4π

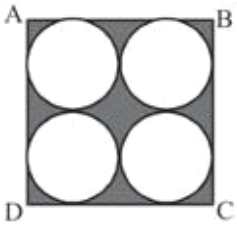
26.An arc makes an angle of $72°$ at the center of a circle of radius 10 cm . its length will be .

(A) 4π cm (B) 8π cm (C) 6π (D) 7π

27.What is the area of a sector of a circle which radius is 5 cm and angle of the sector is 72° ?

(A) 25 π (B) 20 π (C) 15 π (D) 5 π

28.If ABCD is a square which each side is 28 cm^2, then the area of shaded region is



(A) 42 cm^2 (B) 84 cm^2 (C) 168 cm^2 (D) 336 cm^2

29.If a wire is bent into the shape of square, the area of square is 196 cm^2. When the wire is bent into circular shape, the area of circle is

(A) 233 cm^2 (B) 626cm^2 (C) 154 cm^2 (D) none of these

30.Area of circle inscribe in a equilateral triangle is 462 sq cm. The perimeter of the triangle is.

(A) 42 $\sqrt{3}$cm (B) 126 cm (C) 72.6cm (D) 168 cm

31.The area of a circle inscribe in a equilateral triangle is 154sqcm. Find the perimeter of the triangle.

32.A park is in the form of a rectangle 120m x 100m. At the center of the park there is a circular lawn. The area of park excluding lawn is 8700 square metres. Find the radius of the lawn.

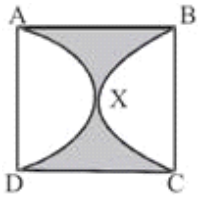
33.The area enclosed between the concentric circle is 770 sqcm. If the radius of the outer circle is 21 cm, find the radius of the inner circle.

34.A chord AB of a circle, of radius 14cm makes an angle of 60 degree at the centre of the circle. Find the area of the minor segment of the circle.

35.Area of quadrant of a circle which circumference is 44cm is equal to

(A) 154 cm^2 (B) 38.5cm^2 (C) 77cm^2 (D) 22 cm^2

36.What is the area of shaded region? If ABCD is a square of side 14 cm and A × D and B × C are semicircle?



(A) 21 cm^2 (B) 42 cm^2 (C) 63 cm^2 (D) 84 cm^2

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37.A copper wire is bent in the form of square, enclosing an area of 625 sq.cm. If the same wire is bent in the form of a circle what will be its area?

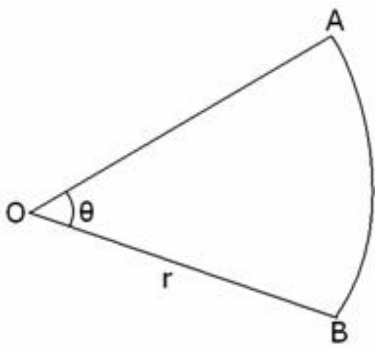
<4M>

38.A road which is 7m wide surrounded a circular park whose circumference is 352 m. Find the area of the road.

39.The diagram shows a sector of a circle of radius r cm containing an angle θ°. The area of sector is A sq.cm. and perimeter of the sector is 50cm.Prove that

i. $\theta^\circ = \frac{360}{\pi}\left(\frac{25}{r}-1\right)$

ii $A = 25r - r^2$



40.Four equal circles, each of radius 7cm touch each other as shown in figure. Find the area included between them.