

Board – CBSE

Class – 10th

Topic – Area Related To Circle

1. In figure, O is the centre of a circle such that diameter  $AB = 13$  cm and  $AC = 12$  cm. BC is joined. Find the area of the shaded region.

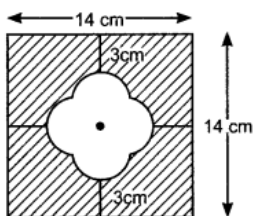
Ans. [36.33  $\text{cm}^2$ ]

2. Find the area of the shaded region in figure, where APD, AQB, BRC and CSD are semi-circles of diameter 14 cm, 3.5 cm, 7 cm and 3.5 cm respectively.

Ans. [86.625  $\text{cm}^2$ ]

3. In figure, find the area of the shaded region

Ans. [154.88  $\text{cm}^2$ ]



4. Find the area of the minor segment of a circle of radius 14 cm, when its central angle is  $60^\circ$ . Also find the area of the corresponding major segment.

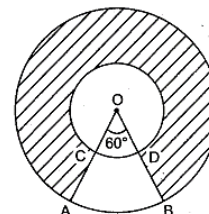
Ans. [598.2  $\text{cm}^2$ ]

5. The long and short hand of a clock are 6cm and 4 cm long respectively, Find the sum of the distance travelled by their tips in 24hrs.

Ans. [954.56 cm]

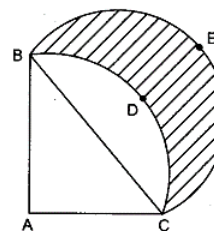
6. In figure, two concentric circles with centre O, have radii 21 cm and 42 cm.  
If  $\angle AOB = 60^\circ$ , find the area of the shaded region.

Ans. [3465cm<sup>2</sup>]



7. In figure, ABDC is a quadrant of a circle of radius 28 cm and a semicircle BEC is drawn with BC as diameter. Find the area of the shaded region.

Ans. [392cm<sup>2</sup>]



8. In the given figure, the area of the shaded region between two concentric circles is 286 cm<sup>2</sup>.  
If the difference of the radii of the two circles is 7 cm, find the sum of their radii.

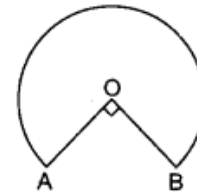
Ans. [13 cm]

9. A chord of length 10 cm divides a circle of radius  $5\sqrt{2}$  cm in two segments. Find the area of the minor segment.

Ans. [14.25 cm<sup>2</sup>]

10. In the given figure, the shape of the top of a table is that a sector of a circle with centre O and  $\angle AOB = 90^\circ$ . If  $AO = OB = 42$  cm, then find the perimeter of the top of the table.

Ans. [282 cm]



11. If the perimeter of a circle is equal to that of square, then the ratio of their areas is

Ans. [14/11]

12. The area of the square that can be inscribed in a circle of 8 cm is

Ans. [128 cm<sup>2</sup>]

13. If the diameter of a semicircular protractor is 14 cm, then find its perimeter.

Ans. [36 cm]

14. The radius of two circle are 3 cm and 4cm. Find the radius of a circle whose area is equal to the sum of the areas of the two circles.

Ans. [ 5 cm]

15. The length of the minute hand of a clock is 14 cm. Find the area swept by the minute hand in 5 minutes.

Ans. [154/3 cm<sup>2</sup>]

16. The radii of two circle are 3 cm and 4cm. Find the radius of a circle whose area is equal to the sum of the areas of the two circles.

Ans. [ 5cm]

17. A copper wire when bent in the form of a square encloses an area of 121cm<sup>2</sup>. If the same wire is bent into the form of a circle, find the area of the circle (22/7)

Ans. [154 cm<sup>2</sup>]

18. A wire is looped in the form of a circle of radius 28cm. It is rebent into a square form. Determine the side of the square (use  $\pi = 22/7$ )

Ans. [44cm]

19. An arc subtends an angle of 90° at the centre of the circle of radius 14 cm. Write the area of minor sector thus form in terms of.

Ans. [49 cm<sup>2</sup>]

20. The length of a minor arc is  $\frac{2}{9}$  of the circumference of the circle. Write the measure of the angle subtended by the arc at the center of the circle.

Ans. [80°]