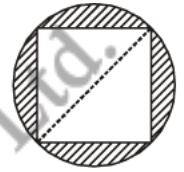
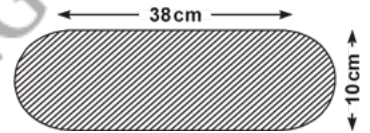


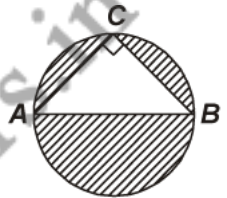
- Q1.** Find the radius of a circle whose circumference is equal to the sum of the circumference of two circles of radii 15 cm and 18 cm.
- Q2.** Find the area of a sector of a circle of radius 28 cm and central angle 45° .
- Q3.** A cow is tied with a rope of length 14 m at the corner of a rectangular field of dimensions 20 m \times 16 m. Find the area of the field in which the cow can graze.
- Q4.** The length of the minute hand of a clock is 5 cm. Find the area swept by the minute hand during the time period 6 : 05 am and 6 : 40 am.
- Q5.** In figure, a square of diagonal 8 cm is inscribed in a circle. Find the area of the shaded region.



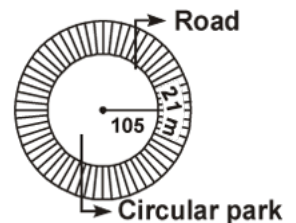
- Q6.** The wheel of a motor cycle is of radius 35 cm. How many revolutions per minute must the wheel make, so as to keep a speed of 66 km/h?
- Q7.** Find the area of the flower bed (with semi-circular ends) shown in figure.



- Q8.** In the figure, AB is a diameter of the circle, $AC = 6$ cm and $BC = 8$ cm. Find the area of the shaded region. (Use $\pi = 3.14$)

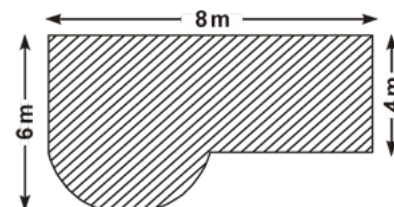


- Q9.** The diameters of front and rear wheels of a tractor are 80 cm and 2 m, respectively. Find the number of revolutions that rear wheel will make in covering a distance in which the front wheel makes 1400 revolutions.
- Q10.** A piece of wire 20 cm long is bent into the form of an arc of a circle, subtending an angle of 60° at its centre. Find the radius of the circle.
- Q11.** A circular park is surrounded by a road 21 m wide. If the radius of the park is 105 m, then find the area of the road.



- Q12.** The area of a circular playground is 22176 m^2 . Find the cost of fencing this ground at the rate of Rs. 50 per m.

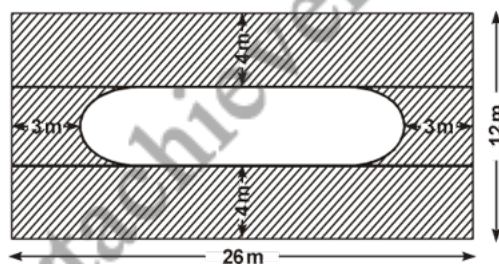
- Q13.** Find the area of the shaded field shown in figure.



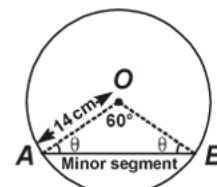
- Q14.** Sides of a triangular field are 15 m, 16 m and 17 m, with the three corners of the field a cow, a buffalo and a horse are tied separately with ropes of length 7 m each to graze in the field. Find the area of the field which cannot be grazed by the three animals.
- Q15.** A circular pond is 17.5 m is of diameter. It is surrounded by a 2 m wide path. Find the cost of construction the path at the rate of Rs. 25 per m^2 ?
- Q16.** Find the area of the sector of a circle of radius 5 cm, if the corresponding arc length is 3.5 cm.
- Q17.** Four circular cardboard pieces of radii 7 cm are placed on a paper in such a way that each piece touches other two pieces. Find the area of the portion enclosed between these pieces.
- Q18.** On a square carboard sheet of area 784 cm^2 , four congruent circular plates of maximum size are placed such that each circular plate touches the other two plates and each side of the square sheet not covered by the circular plates. Find the area of the square sheet not covered by the circular plates.
- Q19.** All the vertices of a rhombus lie on a circle. Find the area of the rhombus, if area of the circle is 1256 cm^2 . (Use $\pi = 3.14$)
- Q20.** An archery target has three regions formed by three concentric circles as shown in figure. If the diameters of the concentric circles are in the ratio 1 : 2 : 3, then find the ratio of the areas of three regions.



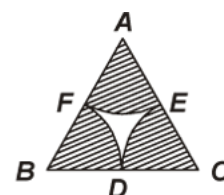
- Q21.** Area of a sector of central angle 200° of a circle is 770 cm^2 . Find the length of the corresponding arc of this sector.
- Q22.** Find the number of revolutions made by a circular wheel of area 1.54 m^2 in rolling a distance of 176 m.
- Q23.** Find the difference of the areas of two segments of a circle formed by a chord of length 5 cm subtending an angle of 90° at the centre.
- Q24.** Find the difference of the areas of a sector of angle 120° and its corresponding major sector of a circle of radius 21 cm.
- Q25.** Find the area of the shaded region in figure.



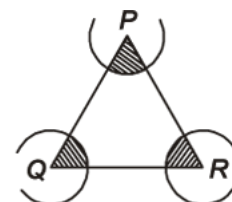
- Q26.** Find the area of the minor segment of a circle of radius 14 cm, when the angle of the corresponding sector is 60° .



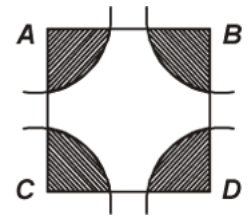
- Q27.** In figure, arcs are drawn by taking vertices A, B and C of an equilateral triangle of side 10 cm. To intersect the sides BC, CA and AB at their respective mid-point D, E and F. Find the area of the shaded region.



- Q28.** In figure, arcs have been drawn with radii 14 cm each and with centres P, Q and R. Find the area of the shaded region.

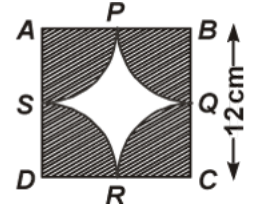


Q29. In figure, arcs have been drawn of radius 21 cm each with vertices A, B, C and D of quadrilateral $ABCD$ as centres. Find the area of the shaded region.

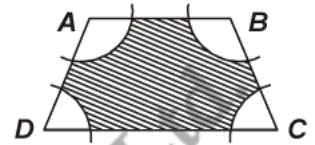


Q30. Find the area of the segment of a circle of radius 12 cm whose corresponding sector has a central angle of 60° . (Use $\pi = 3.14$)

Q31. Find the area of the shaded region in figure, where arcs drawn with centres A, B, C and D intersect in pairs at mid-point P, Q, R and S of the sides AB, BC, CD and DA , respectively of a square $ABCD$. (Use $\pi = 3.14$)

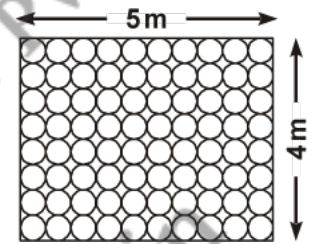


Q32. In figure, $ABCD$ is a trapezium with $AB \parallel DC$, $AB = 18$ cm, $DC = 32$ cm and distance between AB and $DC = 14$ cm. If arcs of equal radii 7 cm with centres A, B, C and D have been drawn, then find the area of the shaded region of the figure.



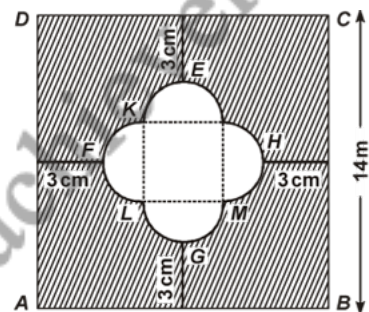
Q33. Three circles each of radius 3.5 cm are drawn in such a way that each of them touches the other two. Find the area enclosed between these circles.

Q34. Floor of a room is of dimensions 5 m \times 4 m and it is covered with circular tiles of diameters 50 cm each as shown in figure. Find area of floor that remains uncovered with tiles. (Use $\pi = 3.14$)



Q35. The central angles of two sectors of circles of radii 7 cm and 21 cm are respectively 120° and 40° . Find the areas of the two sectors as well as the lengths of the corresponding arcs. What do you observe?

Q36. Find the area of the shaded region given in figure.



- S1.** 33 cm.
- S2.** 308 cm^2 .
- S3.** 154 m^2 .
- S4.** $45\frac{5}{6} \text{ cm}^2$.
- S5.** $(16\pi - 32) \text{ cm}^2$.
- S6.** 500 revolution/minute.
- S7.** $(380 + 25\pi) \text{ cm}^2$.
- S8.** 54.5 cm^2 .
- S9.** 560 revolution.
- S10.** $60/\pi \text{ cm}$.
- S11.** 15246 cm^2 .
- S12.** Rs. 26,400.
- S13.** $(32 + 2\pi) \text{ m}^2$.
- S14.** $(24\sqrt{21} - 77) \text{ m}^2$.
- S15.** Rs. 3061.50.
- S16.** 8.75 cm^2 .
- S17.** 42 cm^2 .
- S18.** 168 cm^2 .
- S19.** 800 cm^2 .
- S20.** 1 : 3 : 5.
- S21.** $73\frac{1}{3} \text{ cm}$.
- S22.** 40 revolution.
- S23.** $\left(\frac{25\pi}{4} + \frac{25}{2}\right) \text{ cm}^2$
- S24.** 462 cm^2 .

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S25. $(248 - 4\pi) \text{ m}^2$.

S26. $49\sqrt{3} \text{ cm}^2$.

S27. 39.25 cm^2 .

S28. 308 cm^2 .

S29. 1386 cm^2 .

S30. $(75.36 - 36\sqrt{3}) \text{ cm}^2$.

S31. 30.96 cm^2 .

S32. 196 cm^2 .

S33. 1.967 cm^2 .

S34. 4.3 m^2 .

S35. 154 cm^2 .

We observe that arc lengths of two sectors of two different circles may be equal but their area need not to be equal.

S36. $(180 - 8\pi) \text{ cm}^2$.

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