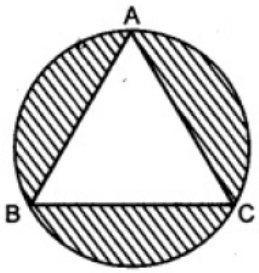
Chapter-Areas Related to Circles

Q1.

In given figure, an equilateral triangle has been inscribed in a circle of radius 6 cm. Find the area of the shaded region.



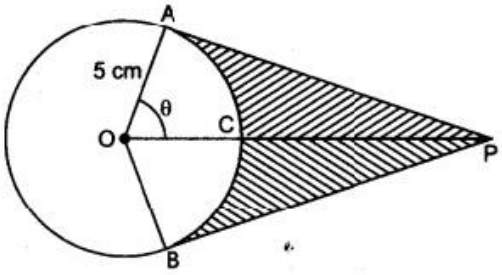
Q2.

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.

Q3.

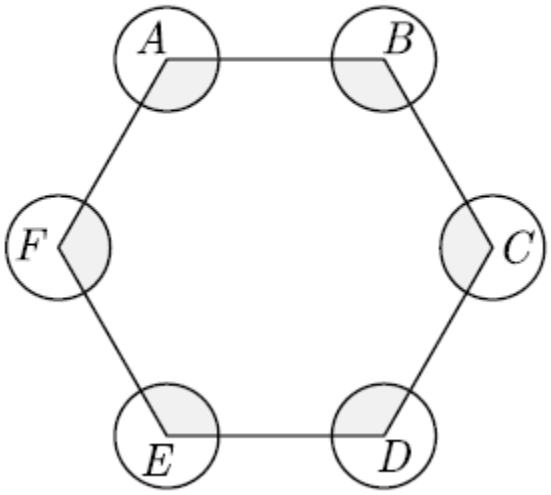
An elastic belt is placed around the rim of a pulley of radius 5 cm. From one point C on the belt, the elastic belt is pulled directly away from the centre O of the pulley until it is at P, 10 cm from the point O. Find the length of the belt that is still in contact with the pulley.

(use $\pi = 3.14$



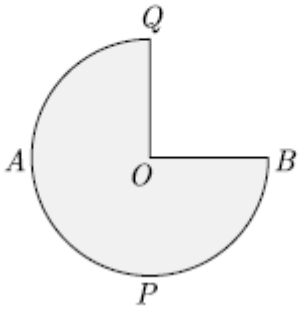
Q4.

.In fig., $ABCDEF$ is any regular hexagon with different vertices A, B, C, D, E and F as the centres of circle with same radius r are drawn. Find the area of the shaded portion.



Q5.

In fig. APB and AQP are semi-circle, and $AO = OB$. If the perimeter of the figure is 47 cm, find the area of the shaded region. Use $\pi = \frac{22}{7}$.



Q6.

. Three horses are tied each with 7 m long rope at three corners of a triangular field having sides 20 m, 34 m and 42 m. Find the area of the plot which can be grazed by the horses.

Q7.

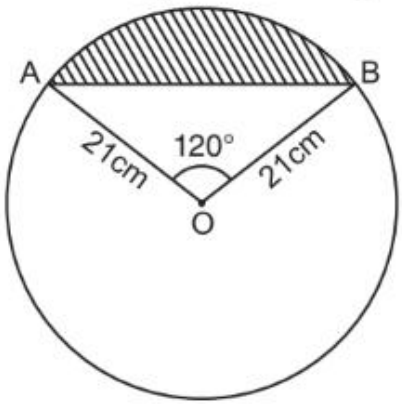
The diameters of the front and rear wheels of a tractor are 80 cm and 200 cm respectively. Find the number of revolutions of rear wheel to cover the distance which the front wheel covers in 800 revolutions.

Q8.

. The perimeter of a sector of a circle of radius 5.2 cm is 16.4 cm. Find the area of the sector.

Q9.

Find the area of the segment shown in Fig. if radius of the circle is 21 cm and $\angle AOB = 120°$ $\left(\text{Use } \pi = \frac{22}{7}\right)$



Q10.

A piece of wire 22 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. $\left[\text{Use } \pi = \frac{22}{7}\right]$