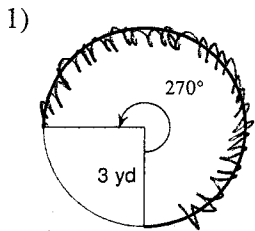


### Arc Length and Sector Area

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Find the length of each arc. Round your answers to the nearest tenth.

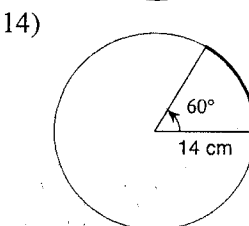
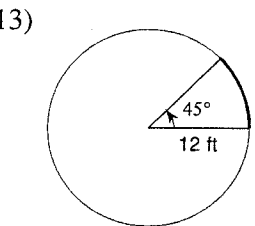
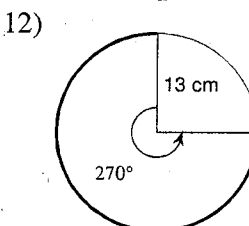
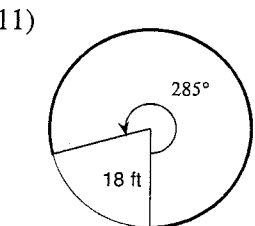
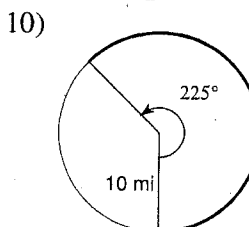
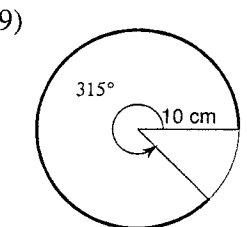
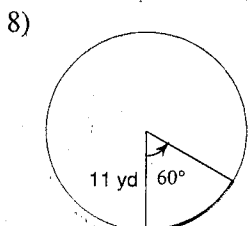
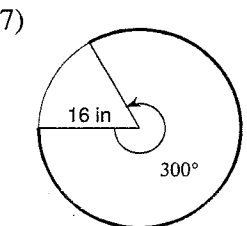
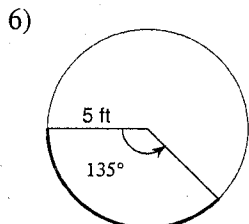
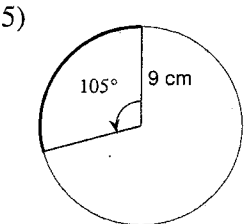
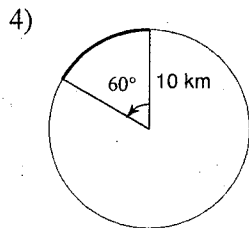
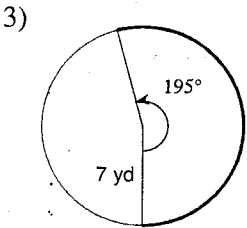
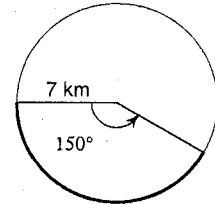


Arc Length:

$$= \frac{\text{DEG used}}{360} * 2 * \pi * r$$

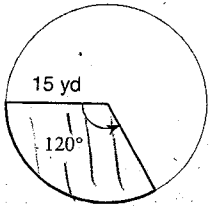
$$= \frac{270}{360} * 2 * \pi * 3$$

$$= 14.1 \text{ yd}$$



Find the area of each sector. Round your answers to the nearest tenth.

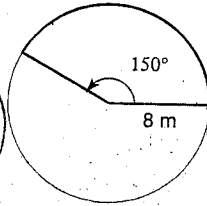
15)



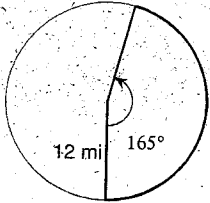
$$\frac{\text{Deg used}}{360} * \pi * r^2$$

$$= \frac{120}{360} * \pi * 15^2 = 235.6 \text{ yd}^2$$

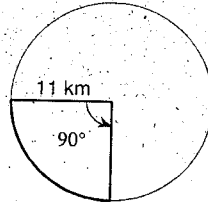
16)



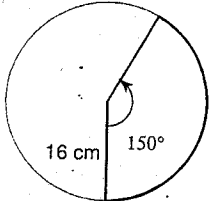
17)



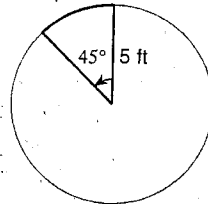
18)



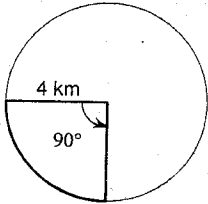
19)



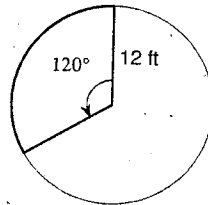
20)



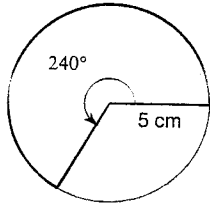
21)



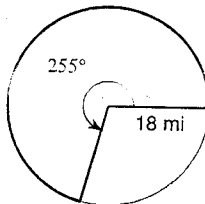
22)



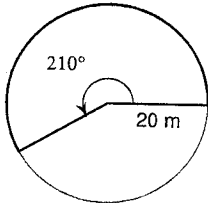
23)



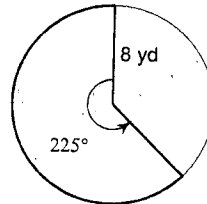
24)



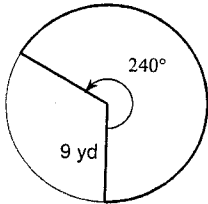
25)



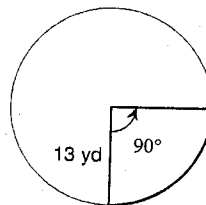
26)



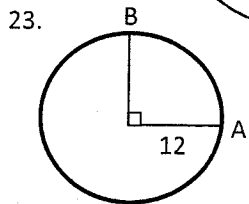
27)



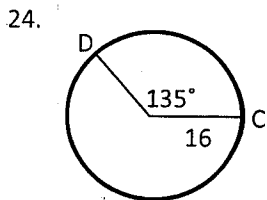
28)



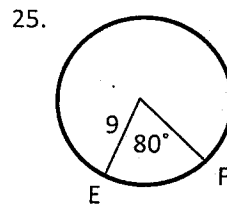
Find each indicated arc length. Leave your answers in terms of  $\pi$ .



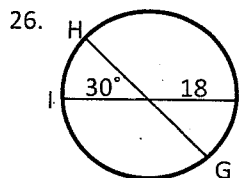
$\widehat{AB} = \underline{\hspace{2cm}}$



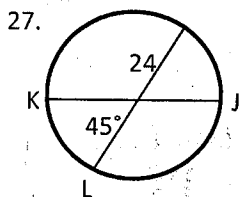
$\widehat{CD} = \underline{\hspace{2cm}}$



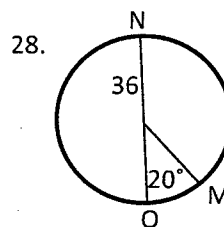
$\widehat{EF} = \underline{\hspace{2cm}}$



$\widehat{GHI} = \underline{\hspace{2cm}}$

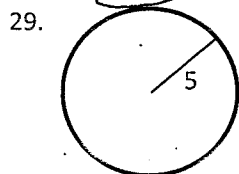


$\widehat{JKL} = \underline{\hspace{2cm}}$

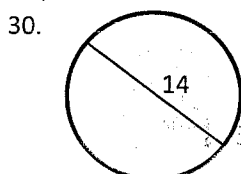


$\widehat{MNO} = \underline{\hspace{2cm}}$

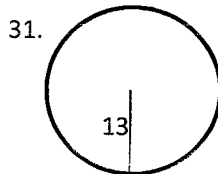
Find the area of each circle. Leave your answers in terms of  $\pi$ .



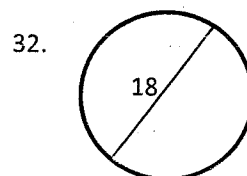
$A = \underline{\hspace{2cm}}$



$A = \underline{\hspace{2cm}}$

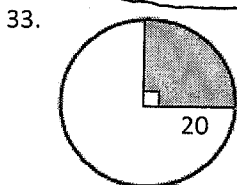


$A = \underline{\hspace{2cm}}$

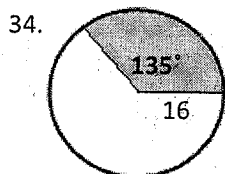


$A = \underline{\hspace{2cm}}$

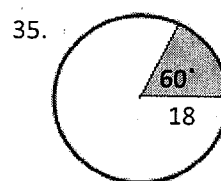
Find the area of each shaded sector. Leave your answers in terms of  $\pi$ .



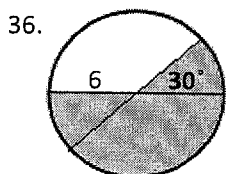
$A = \underline{\hspace{2cm}}$



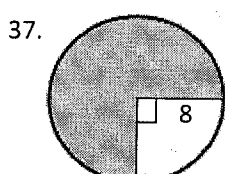
$A = \underline{\hspace{2cm}}$



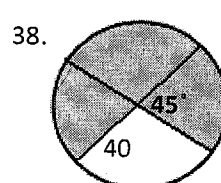
$A = \underline{\hspace{2cm}}$



$A = \underline{\hspace{2cm}}$



$A = \underline{\hspace{2cm}}$

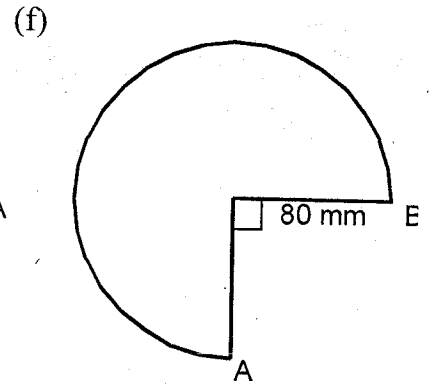
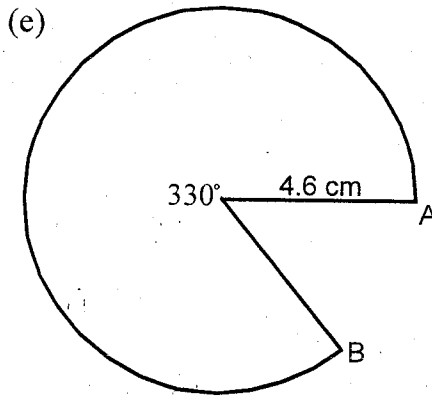
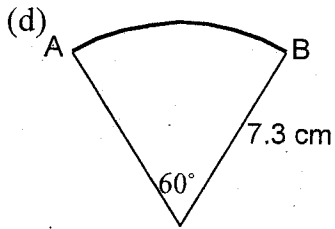
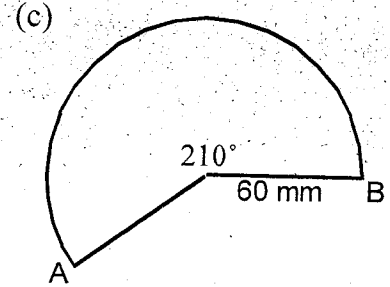
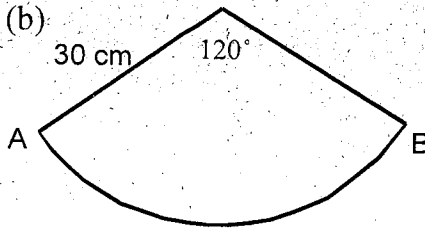
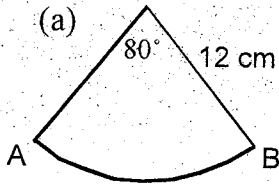


$A = \underline{\hspace{2cm}}$

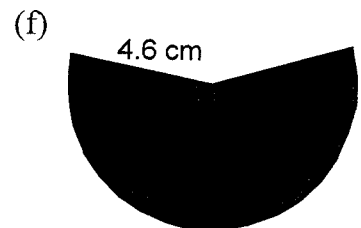
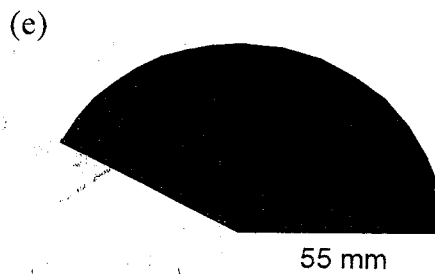
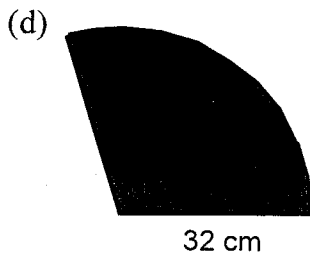
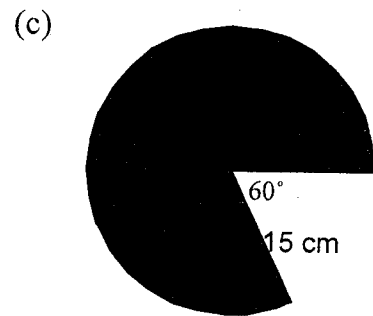
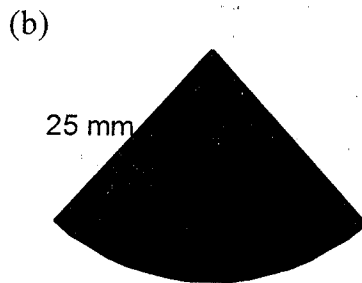
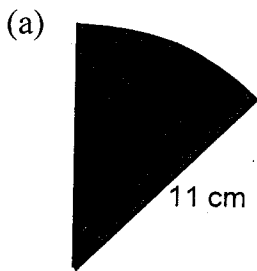
$A = \pi r^2$

## Arcs and Sectors

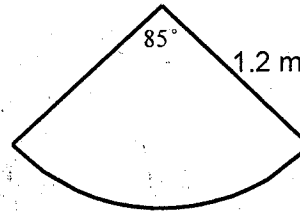
1. Calculate the length of arc AB in each question below



2. Calculate the area of each sector below.

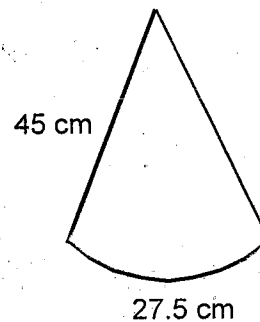
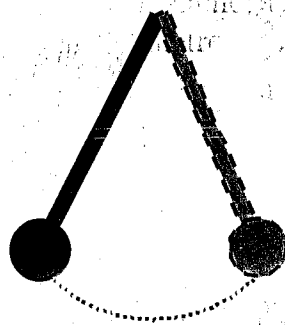


6. The curved part on an anchor is in the shape of an arc of a circle which has radius 1.2 metres.



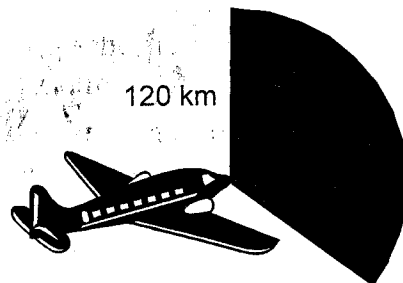
Calculate the length of this arc.

7. A pendulum is 45 centimetres long. When the pendulum swings it travels along the arc of a circle and covers a distance of 27.5 centimetres.



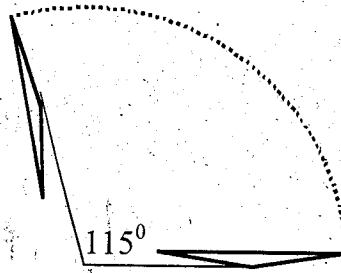
Calculate the size of the angle through which the pendulum travels.

8. The radar beam sent out by an aeroplane reaches a distance of 120 kilometres and covers an angle of  $150^\circ$ .



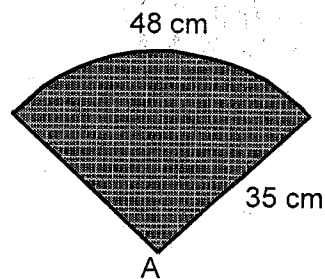
Calculate the area covered by the beam.

9. A windscreen wiper is 45 centimetres long. In one sweep it turns through an angle of  $115^\circ$ .



Calculate the distance it covers in one sweep.

10. A fan is in the shape of an arc of a circle with radius 35 centimetres.



Calculate the size of the angle at A.

11. The path traced by a golfer's club when he hits the ball is an arc of a circle. If the golf club is 95 centimetres long, calculate the distance travelled when the golfer swings his club.

