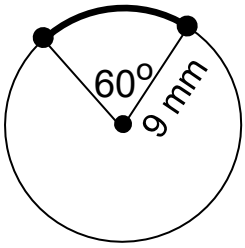
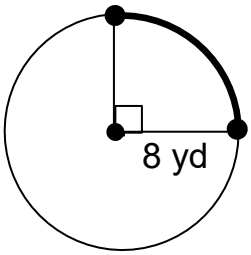
Math on the Fly!

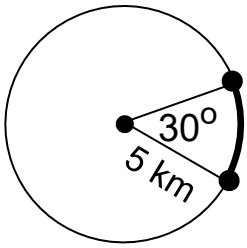
NAME: _____ DATE: _____

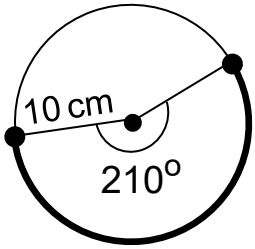
Arc Length

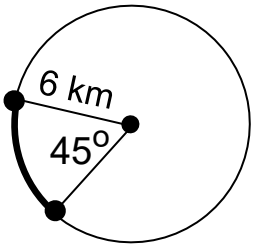
Find the length of each arc below.
You may give each answer in terms of pi or round the answer to two decimal places.

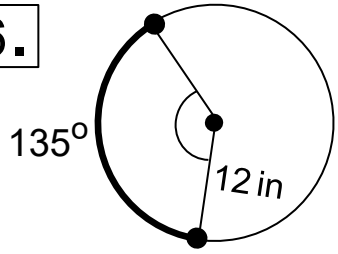
1. 

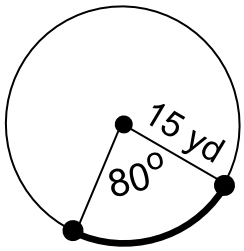
2. 

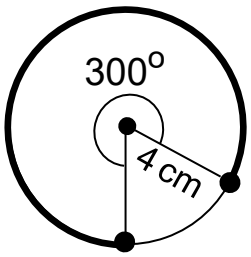
3. 

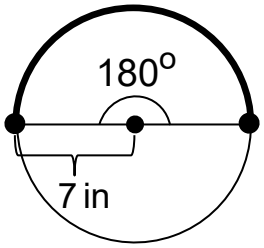
4. 

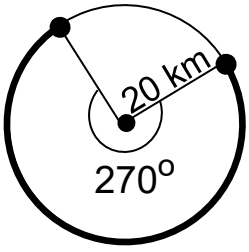
5. 

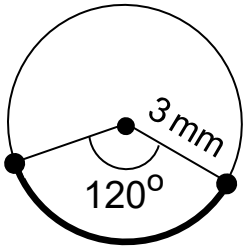
6. 

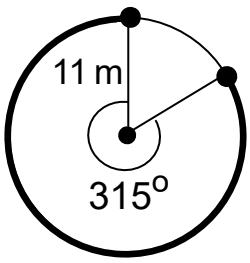
7. 

8. 

9. 

10. 

11. 

12. 

SOLUTIONS

1. $L = \frac{60}{360} \cdot (2 \cdot \pi \cdot 9)$

$= 3\pi$ or 9.42 mm

2. $L = \frac{90}{360} \cdot (2 \cdot \pi \cdot 8)$

$= 4\pi$ or 12.56 yd

3. $L = \frac{30}{360} \cdot (2 \cdot \pi \cdot 5)$

$= \frac{5\pi}{6}$ or 2.62 km

4. $L = \frac{210}{360} \cdot (2 \cdot \pi \cdot 10)$

$= \frac{35\pi}{3}$ or 36.63 cm

5. $L = \frac{45}{360} \cdot (2 \cdot \pi \cdot 6)$

$= \frac{3\pi}{2}$ or 4.71 km

6. $L = \frac{135}{360} \cdot (2 \cdot \pi \cdot 12)$

$= 9\pi$ or 28.26 in

7. $L = \frac{80}{360} \cdot (2 \cdot \pi \cdot 15)$

$= \frac{20\pi}{3}$ or 20.93 yd

8. $L = \frac{300}{360} \cdot (2 \cdot \pi \cdot 4)$

$= \frac{20\pi}{3}$ or 20.93 cm

9. $L = \frac{180}{360} \cdot (2 \cdot \pi \cdot 7)$

$= 7\pi$ or 21.98 in

10. $L = \frac{270}{360} \cdot (2 \cdot \pi \cdot 20)$

$= 30\pi$ or 94.2 km

11. $L = \frac{120}{360} \cdot (2 \cdot \pi \cdot 3)$

$= 2\pi$ or 6.28 mm

12. $L = \frac{315}{360} \cdot (2 \cdot \pi \cdot 11)$

$= \frac{77\pi}{4}$ or 60.45 m