Making Connections: Nardo Ring
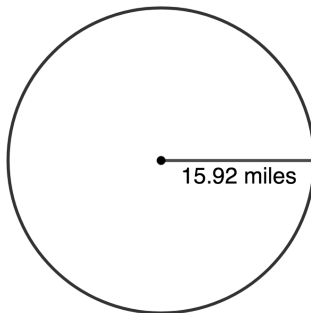
Student Methods
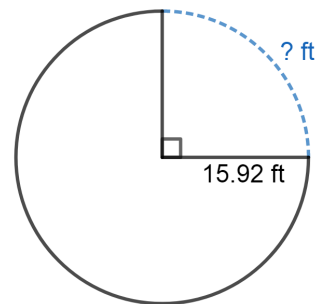
Big Idea: There is a constant proportional relationship between an angle and its arc measures on a circle.
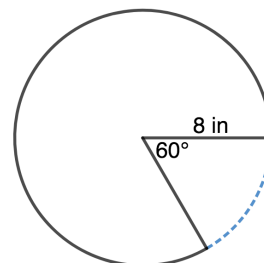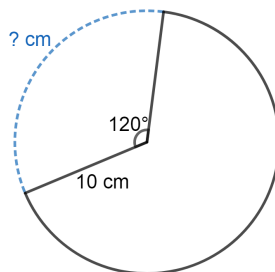
What is the circumference?

15.92 miles

What is the length of the dashed arc?

? ft

15.92 ft

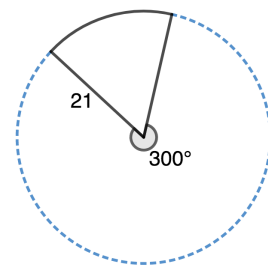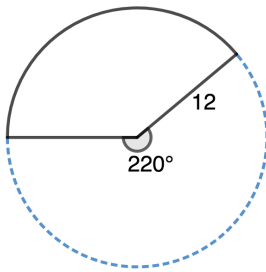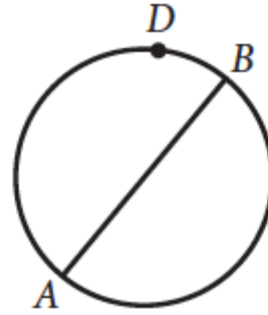
Here are two possible formulas. How do they compare to our methods?

$$\frac{central\ angle}{360°} \cdot 2\pi r \quad \text{or} \quad \frac{arc\ length}{2\pi r} = \frac{central\ angle}{360°}$$

? cm

120°

10 cm

8 in

60°

In the circle, segment AB is a diameter. If the length of arc $\overset{\frown}{ADB}$ is 8π, what is the length of the radius of the circle?

A) 2
B) 4
C) 8
D) 16

12

220°

21

300°

The circle with center O has a circumference of 36.

What is the length of minor arc $\overset{\frown}{AC}$?

A) 9
B) 12
C) 18
D) 36