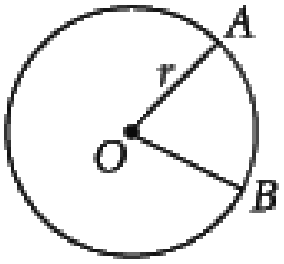
Unit 6: Circles **Name:**_____
Day 4 Circles and Arcs (PH 7-6) **Date:** _____**Hour:** ___

Theorem 7-14: Arc Length

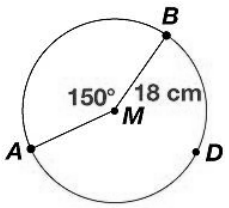


The length of an arc of a circle is the product of the ratio $\frac{\text{measure of the arc}}{360}$ and the circumference of the circle.

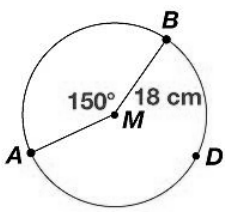
length of $\overset{\frown}{AB} = \frac{m\overset{\frown}{AB}}{360} \cdot 2\pi r$

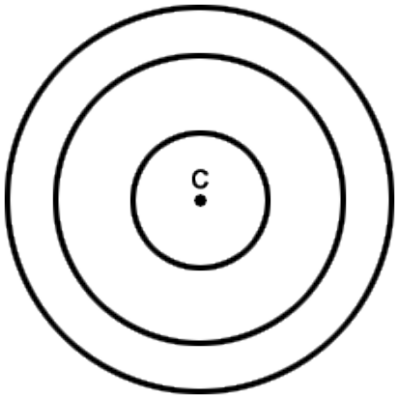
Notice that the measure of an arc is in degrees while arc length is a fraction of circumference.

Example 1: Find the length of $\overset{\frown}{AB}$ and the length of $\overset{\frown}{ADB}$ in $\odot M$ in terms of π.



Example 2: Find the length of $\overset{\frown}{ADB}$ and the length of $\overset{\frown}{ADB}$ in $\odot M$ in terms of π.





Concentric circles
lie in the same plane and have the same center.

Example 3: A circular swimming pool with a 16-ft diameter will be enclosed in a circular fence 4 ft from the pool. What length of fencing material is needed? Round to the next whole number.

Homework: Pages 389 – 393 # 34 – 39, 52, and 53