Name: _____

9.7 – Arc Length

Past due on: _____ Period: _____

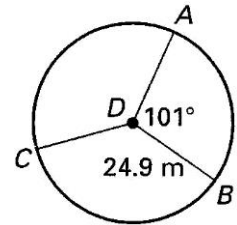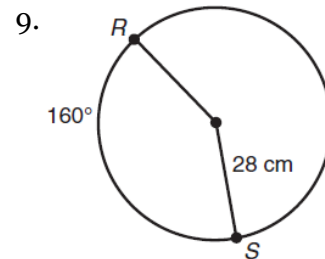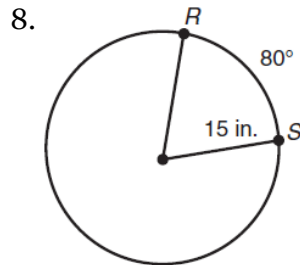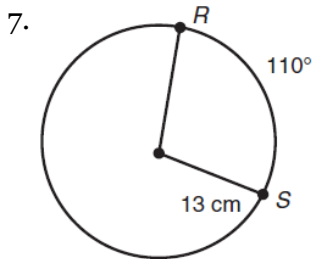**EXPRESS ALL ARC LENGTHS IN TERMS OF π AND AS A DECIMAL ROUNDED TO TWO DECIMAL PLACES.**

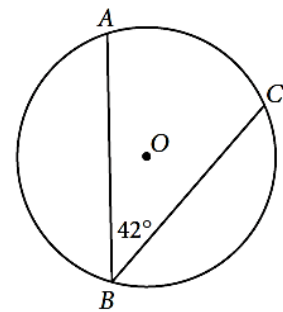In $\odot D$ shown, $\angle ADC \cong \angle BDC$. Find the indicated measures.

1. $m\widehat{ACB}$ 2. Length of $\widehat{ACB}$

3. $m\widehat{CB}$ 4. Length of $\widehat{CB}$

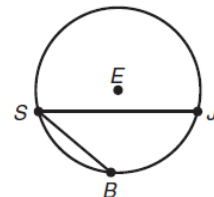5. $m\widehat{ABC}$ 6. Length of $\widehat{ABC}$

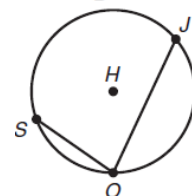Find the length of $\widehat{RS}$.

7.

8.

9.

10. Circle O has a radius of 24 inches. Find the measure and the length of $\widehat{AC}$.

11. Circle E has a radius of 16 centimeters and $m\angle JSB = 40°$. Find the measure and the length of $\widehat{JB}$.
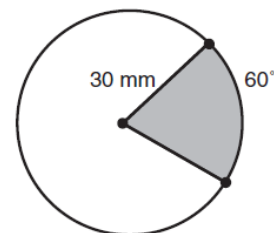
12. In $\odot H$, the length of $\widehat{SJ}$ is 24π centimeters and $m\angle JOS = 80°$. Determine the length of a diameter of $\odot H$.
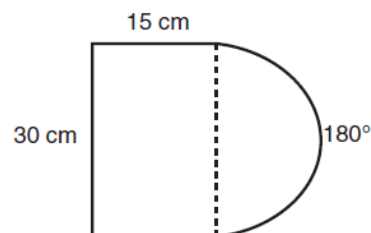
13. If the measure of $\widehat{KL}$ is 15° and the diameter is 18 feet, what is the arc length of $\widehat{KL}$ to the nearest hundredth of a foot?

14. If the measure of $\widehat{OP}$ is 165° and the diameter is 21 centimeters, what is the arc length of $\widehat{OP}$ to the nearest hundredth of a centimeter?

15. Sam used a tape measure and determined the circumference of a flagpole to be 6.2 inches. What is the radius of the flagpole to nearest tenth of an inch?

16. Dean used a string and a tape measure to determine the circumference of a circular cap to be 12.56 inches. What is the radius of the cap to the nearest tenth of an inch?

17. Determine the perimeter of the shaded region. Round your answer to the nearest hundredth of a millimeter.

18. Determine the perimeter of the figure below. Round your answer to the nearest hundredth of a centimeter.

19. Amelia would like to pur edging along the circular edge of her flower garden (see diagram). How much edging will she need if she just puts it along the circular part? Round your answer to the nearest hundredth of a foot.

Chapter 9: Circles