Unit 7: Circles

PRACTICE

Name: _____ Date: _____

Solve each problem. Assume all angle and arc measures are in degrees unless noted. Give exact answers (use pi where needed) and show your final value only.

1. A central angle in a circle intercepts an arc. If the central angle measures 74°, what is the measure of its intercepted arc, in degrees?

Answer: _____

2. An inscribed angle in a circle intercepts an arc of 126°. What is the measure of the inscribed angle, in degrees?

Answer: _____

3. In a circle, arc AB = 88° and arc BC = 130° along a triangle inscribed in the circle, so that arcs AB, BC, and CA make up the whole circle. What is the measure of arc CA, in degrees?

Answer: _____

4. An inscribed angle intercepts a semicircle (a diameter). What is the measure of the inscribed angle, in degrees?

Answer: _____

5. A quadrilateral is inscribed in a circle. One angle measures 105°. What is the measure of its opposite angle, in degrees?

Answer: _____

6. A tangent line touches a circle at point P, and OP is the radius to that point (O is the center). What is the measure of the angle between the tangent line and the radius OP, in degrees?

Answer: _____

7. Two secants drawn from an external point intercept a far arc of 100° and a near arc of 40°. The angle formed at the external point equals half the difference of the intercepted arcs. What is the measure of that angle, in degrees?

Answer: _____

8. Two chords intersect inside a circle. The two intercepted arcs measure 70° and 110°. The angle formed equals half the sum of the intercepted arcs. What is the measure of that angle, in degrees?

Answer: _____

9. Two chords intersect inside a circle. One chord is divided into segments of length 6 and 8. The other chord is divided into a segment of length 4 and an unknown segment x. Using (6)(8) = (4)(x), find x.

Answer: _____

10. A circle has radius 9. Find the length of the arc intercepted by a central angle of 40°. Use the formula arc length = (central angle/360) × 2 × pi × r. Give the exact answer in terms of pi.

Answer: _____

11. A circle has radius 6. Find the arc length of a 90° arc. Give the exact answer in terms of pi.

Answer: _____

12. From an external point, a tangent segment has length 12 and a secant from the same point passes through the circle with an external segment of length 8 and total secant length L. Using the relationship 12^2 = 8 × L, find L.

Answer: _____