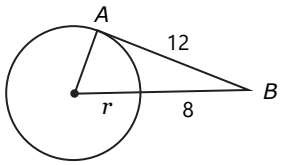
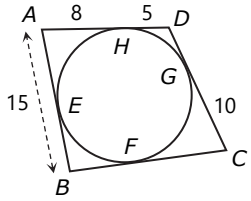
LESSON 167 Review: Circles

Leave your answers in simplest radical form.

1. $\overline{AB}$ is tangent to a circle at A. Find the radius of the circle.

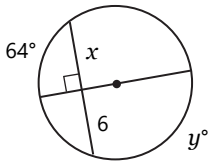


2. A quadrilateral circumscribes a circle. Find the perimeter of the quadrilateral.

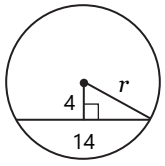


3. A diameter divides a circle into two congruent arcs. What is the measure of each arc?

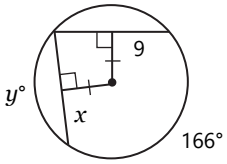
4. A diameter is perpendicular to a chord in a circle. Find the values of x and y.



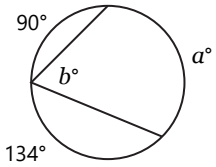
5. A 14-cm chord is 4 cm from the center of a circle. Find the radius of the circle.



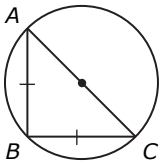
6. Two chords are equidistant from the center of a circle. Find the values of x and y.



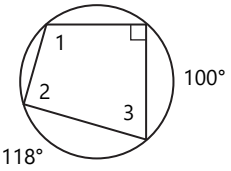
7. An angle is inscribed in a circle. Find the values of a and b.



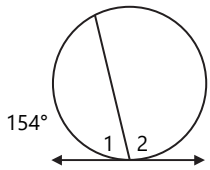
8. An isosceles triangle is inscribed in a circle with radius $5\sqrt{2}$. One side of the triangle is the diameter of the circle. Solve the triangle (find all sides and angles).



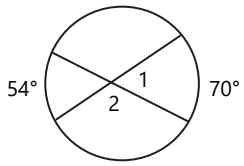
9. A quadrilateral is inscribed in a circle. Find the measures of $\angle 1$, $\angle 2$, and $\angle 3$.



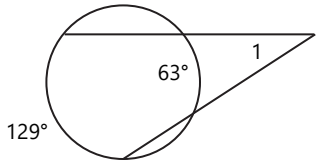
10. A chord intersects a tangent at a point on a circle. Find the measures of ∠1 and ∠2.



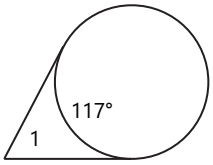
11. Two chords intersect in a circle. Find the measures of ∠1 and ∠2.



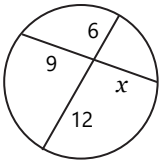
12. Two secants intersect outside a circle. Find the measure of ∠1.



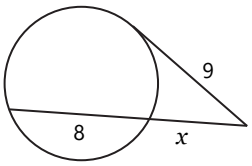
13. Two tangents intersect outside a circle. Find the measure of ∠1.



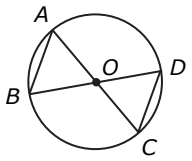
14. Two chords intersect in a circle. Find the value of x.



15. A secant and a tangent intersect outside a circle. Find the value of x.



16. What congruence criterion can be used to prove $\triangle AOB \cong \triangle COD$?



17. Select all statements that are true.

A) Two arcs are congruent if they have the same radius.

B) Two minor arcs in a circle are congruent if their corresponding chords are congruent.

C) Two chords in a circle are congruent if they are parallel.

D) A diameter bisects a chord if it is perpendicular to the chord.

18. (HONORS) In the diagram, $m\widehat{AB} = m\widehat{DE} = 46°$ and $m\widehat{CD} = 60°$. Find all the arc measures, then find all the numbered angle measures.