Name _____ Class _____ Date _____

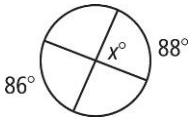
12-4 Practice

Form G

Angle Measures and Segment Lengths

Find the value of *x*.

1.



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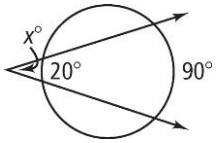

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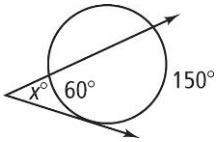

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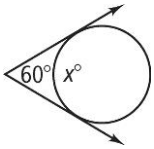

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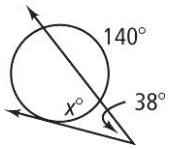

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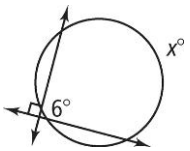
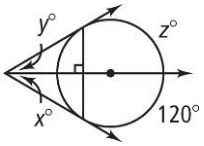


Algebra Find the value of each variable using the given chord, secant, and tangent lengths. If the answer is not a whole number, round to the nearest tenth.

8.



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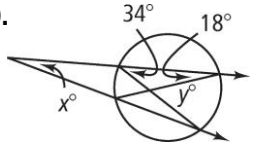

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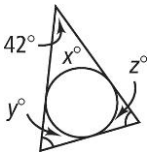

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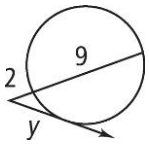

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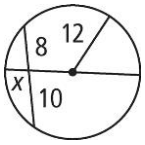

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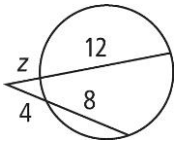
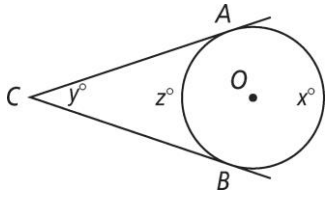


Algebra $\overline{CA}$ and $\overline{CB}$ are tangents to $\odot O$. Write an expression for each arc or angle in terms of the given variable.

14. $m\widehat{AB}$ using x **15.** $m\widehat{AB}$ using y **16.** $m\angle C$ using x



Name _____ Class _____ Date _____

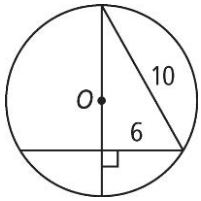
12-4 Practice (continued)

Form G

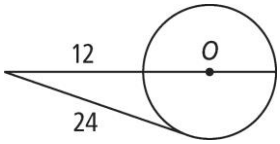
Angle Measures and Segment Lengths

Find the diameter of ⊙*O*. A line that appears to be tangent is tangent. If your answer is not a whole number, round to the nearest tenth.

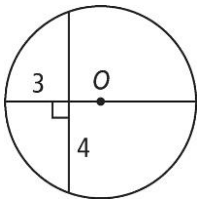
17.



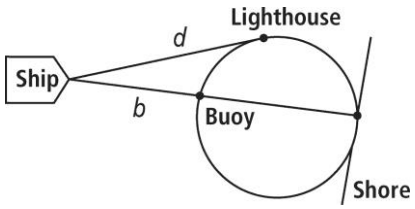
18.



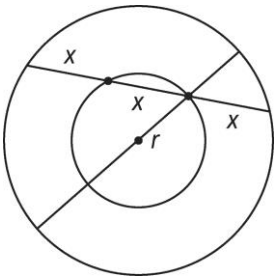
19.



20. The distance from your ship to a lighthouse is *d*, and the distance to the buoy is *b*. Express the distance to the shore in terms of *d* and *b*.



21. Reasoning The circles at the right are concentric. The radius of the larger circle is twice the radius, *r*, of the smaller circle. Explain how to find the ratio *x* : *r*, then find it.



22. A circle is inscribed in a parallelogram. One angle of the parallelogram measures 60. What are the measures of the four arcs between consecutive points of tangency? Explain.

23. An isosceles triangle with height 10 and base 6 is inscribed in a circle. Create a plan to find the diameter of the circle. Find the diameter.

24. If three tangents to a circle form an equilateral triangle, prove that the tangent points form an equilateral triangle inscribed in the circle.

25. A circle is inscribed in a quadrilateral whose four angles have measures 86, 78, 99, and 97. Find the measures of the four arcs between consecutive points of tangency.