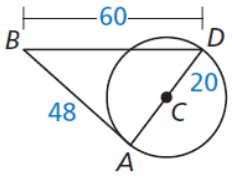
Name: _____

9.3 Tangents

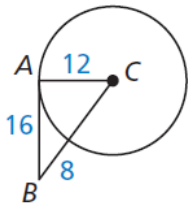
Past due on: _____ Period: _____

Use the Tangent to a Circle Theorem to determine if $\overleftrightarrow{AB}$ is tangent to $\odot C$. If it is, then use a trig ratio to find $m\angle B$, rounded to the nearest tenth of a degree.

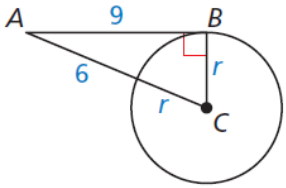
1.



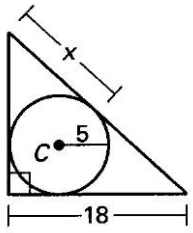
2.



3. Point B is a point of tangency. Find the radius of $\odot C$. Use a trig ratio to find $m\angle BAC$.

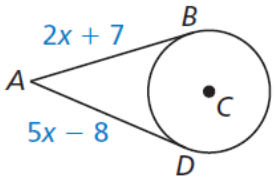


4. Use the Tangent to a Circle Theorem to find the value of x.

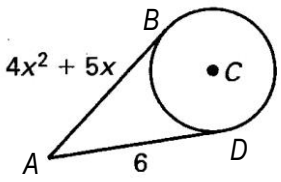


$\overleftrightarrow{AB}$ and $\overleftrightarrow{AD}$ are tangent to $\odot C$. Use the Two-Tangent Theorem to set up and solve an equation to find the value of x (that makes sense).

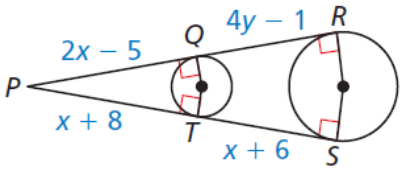
5.



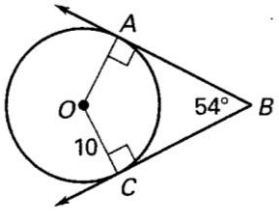
6.



7. Find the values of x and y. Justify your answer.

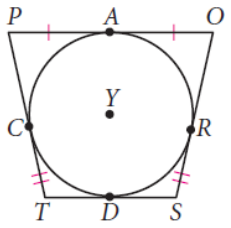


8. In $\odot O$, $OC = 10$, $m\angle ABC = 54°$, and $\overrightarrow{BA}$ and $\overrightarrow{BC}$ are tangents to $\odot O$. Find BC.

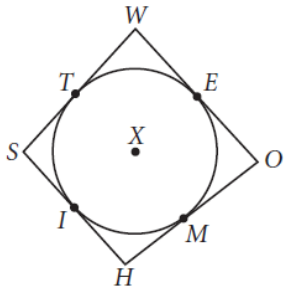


Use the Two-Tangent Theorem to find the perimeter of the circumscribed polygon.

9. $OR = 13$ & $ST = 12$

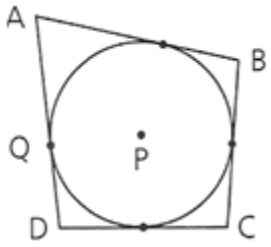


10. $WO = 14$, $HM = 4$, $SW = 11$, and $ST = 5$



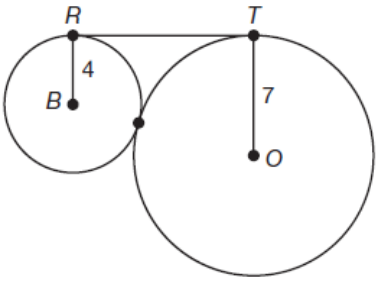
Find the indicated measurement. (Assume that lines which appear to be tangent, are tangent.)

11. A walk-around problem: $AB = 20$, $BC = 11$, & $DC = 14$. Let $AQ = x$. Find AD.

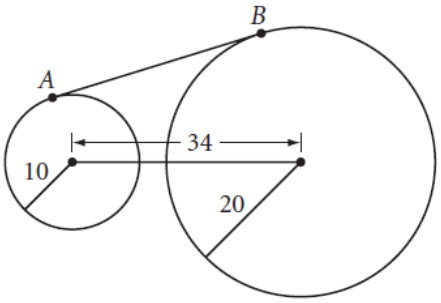


Use the "Common Tangent Procedure" to find the length of the common external tangent. If necessary, round to the nearest tenth.

12. $\odot B$ and $\odot O$ are tangent circles; $\overline{RT}$ is a common tangent.



13. $\overline{AB}$ is a common external tangent.



14. $\odot P$ is centered at the origin. $\overleftrightarrow{AT}$ is tangent to $\odot P$ at $A(8, 15)$. Find the equation of $\overleftrightarrow{AT}$.