

Tangents and Chords

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1. If two chords of equal length are drawn in a circle, then the intercepted arcs of those chords are

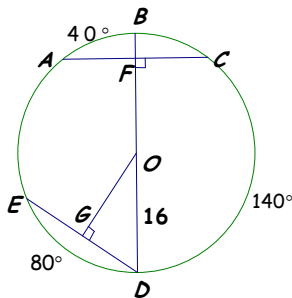
- A. Similar B. Congruent
C. Bisected D. No relationship

2. If a radius is perpendicular to a chord, then it ____ the chord and its major and minor arcs.

- A. Equals B. Has no effect on
C. Bisects D. Cuts

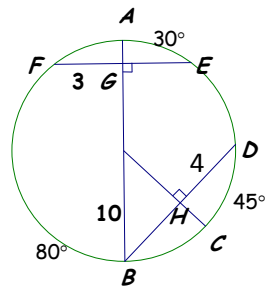
Find the measures of the following angles, arcs and line segments. (3-4)

3.



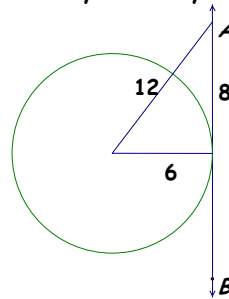
$\widehat{BC} =$ $OF =$
 $\widehat{AE} =$ $\angle AFB =$

4.

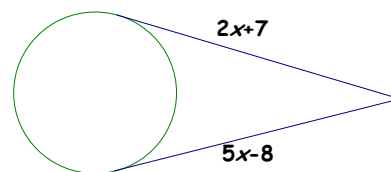


$\widehat{AF} =$ $GE =$
 $\widehat{BC} =$ $QC =$
 $\widehat{FB} =$ $BH =$
 $\widehat{ED} =$ $\angle BQC =$

5. In the figure below, is \overline{AB} tangent to the circle? Why or why not?

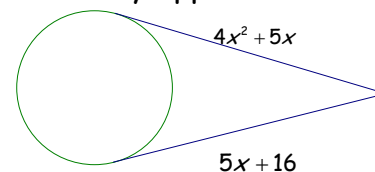


6. Use the figure below. The segments are tangent as they appear.



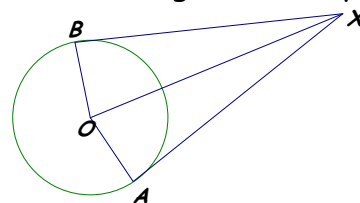
What is the value of x ?

7. Use the figure below. The segments are tangent as they appear.



What is the value of x ?

8. In the figure below, $OA = 7$ and $XO = 25$. Segments are tangent as they appear.

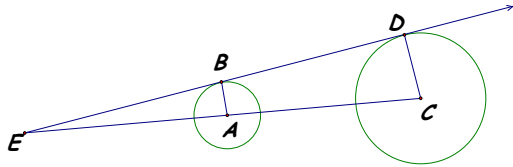


What is BX ?

Tangents and Chords

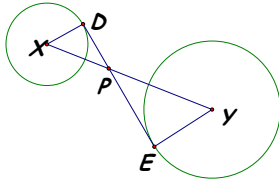
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9. In the figure below, \overline{AB} and \overline{CD} are radii, \overline{BD} is a common external tangent, and $AB = 5$, $CD = 15$, $BE = 12$.



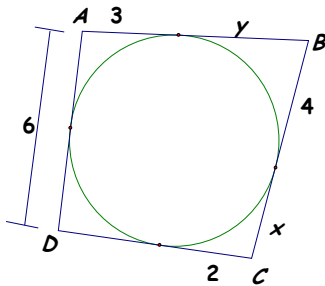
What is the value of x ?

10. In the figure below, \overline{DE} is a common internal tangent to $\odot X$ and $\odot Y$, $XD = 1$, $YE = 2$, and $DP = 3$.



What is DE ?

11. Use the figure below to answer the following questions.

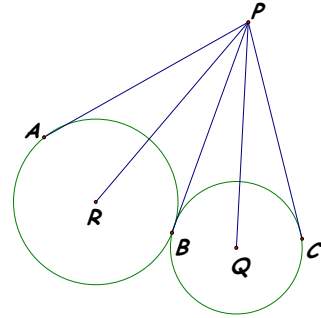


What is the value of x ?

What is the value of y ?

What is the perimeter of the quadrilateral?

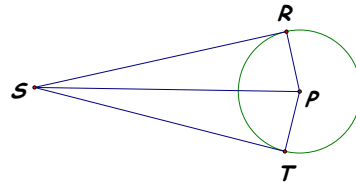
In the following figure \overline{PA} , \overline{PB} , and \overline{PC} are tangent to Q and R from P . (12-13)



12. $PA = 10$. What is PC ?

13. $m\angle APC = 46^\circ$. What is $m\angle RPB$?

14. **Given:** \overline{SR} is tangent to $\odot P$ at R ;
 \overline{ST} is tangent to $\odot P$ at T
Prove: $SR = ST$



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15. **Given:** $l \perp$ to radii \overline{QP} at P
Prove: l is tangent to $\odot Q$

