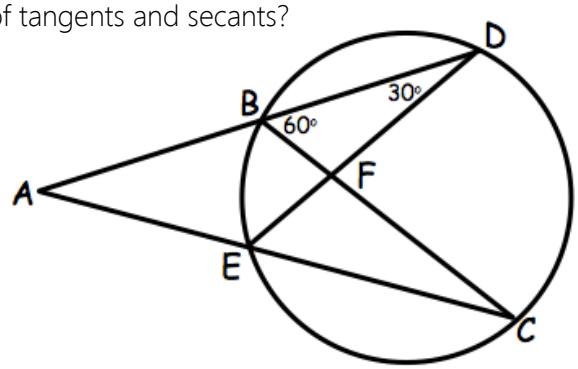
Geometry CC – Mr. Valentino
Unit 12 Day 10: Tangent Secant Lengths

Name: _____
Date: _____ Per: _____

Aim: How can we find lengths of tangents and secants?

Do Now:




m∠DEC =

m∠BCE =

m$\widehat{DC}$ =

m$\widehat{BE}$ =

m∠A =

What can we say about ΔADE and ΔACB?

_____

_____

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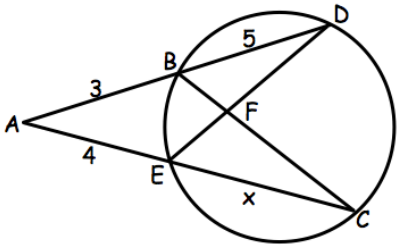
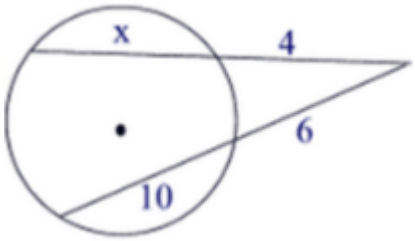
Using the same diagram from the do now, how can we solve for x?

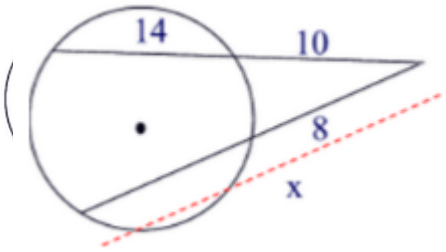



**Secant-Secant Rule**

1.

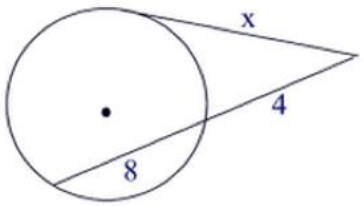



2.



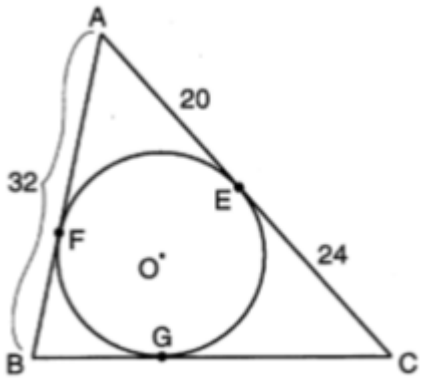

**Tangent-Secant Rule**

3.



## Tangent-Tangent Rule aka the Party Hat Theorem:

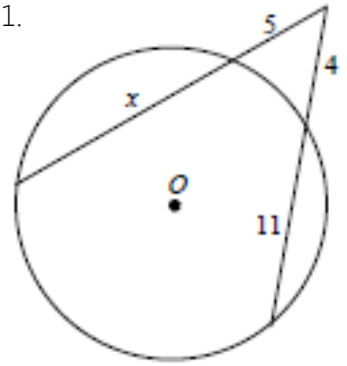
What is the length of BC?




Practice Problems

Find the value of x (to the nearest tenth if necessary):

1.

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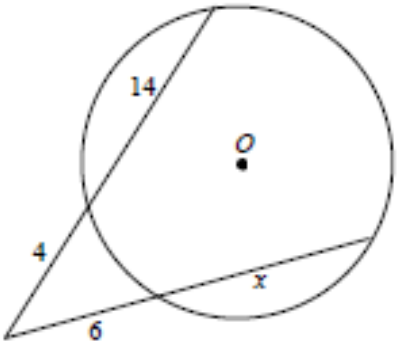
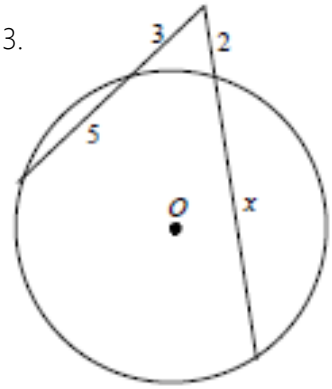



3.

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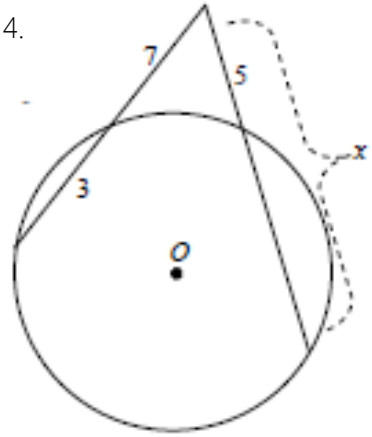


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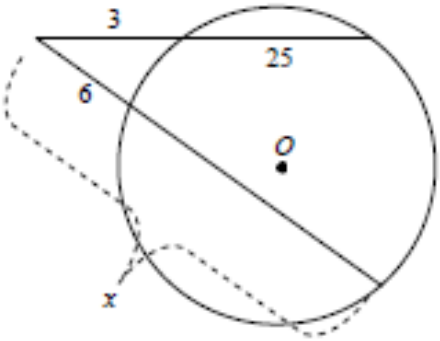
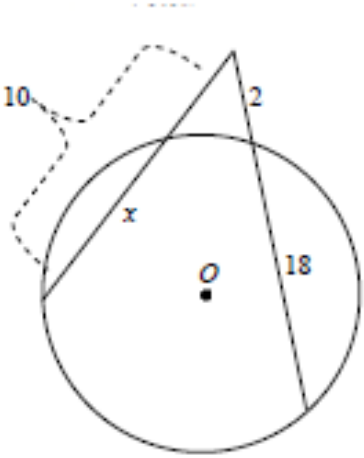
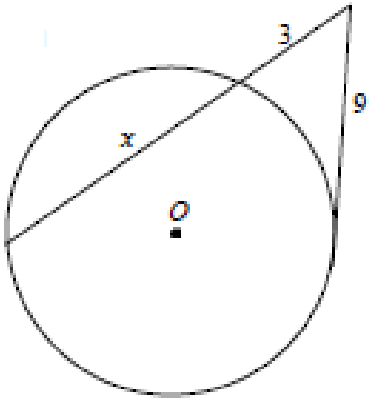


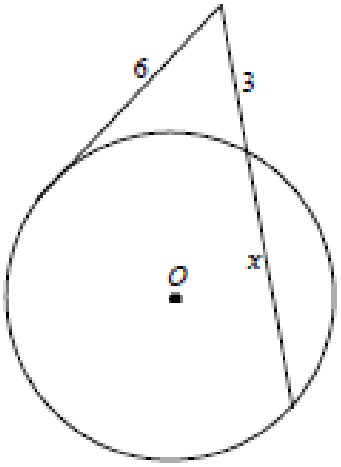

6.



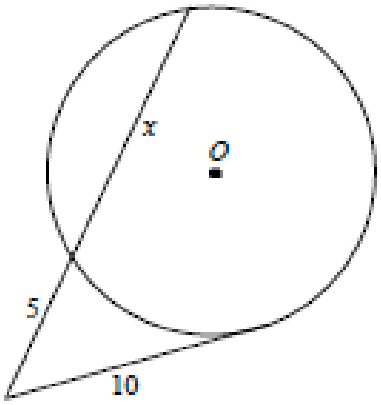
7.



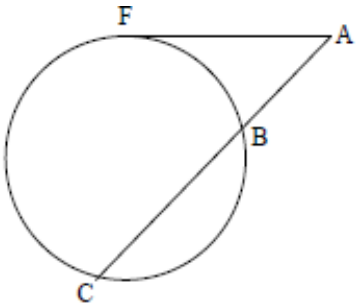

8.



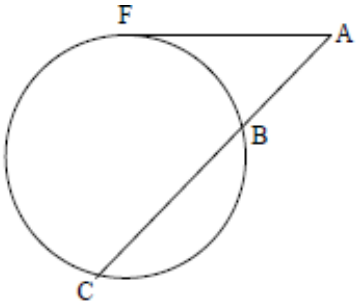

9.



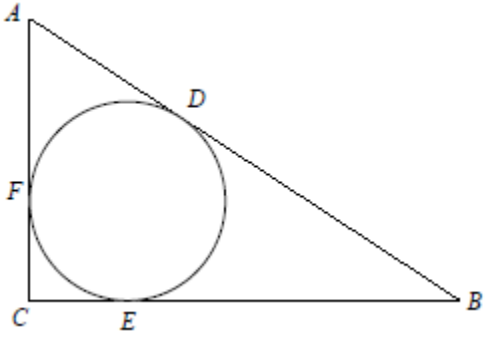

9. If AC : AB = 4:1 and AF = 12, find AB.



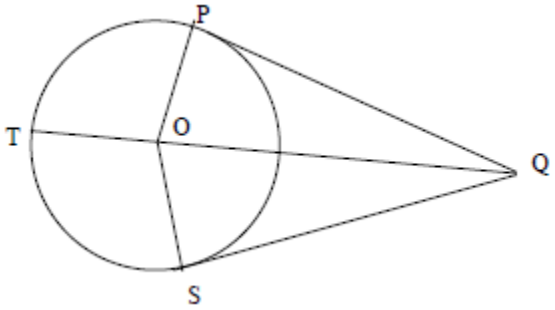

10. If AB : BC = 1:3 and AF = 4, find AB.




11. In the diagram below, $AF = 5$, $CE = 3$, $DB = 12$. Determine if $\Delta ABC$ is a right triangle.




12. If $PQ = 4x - 1$, $SQ = x + 11$, $OP = 2x$, find each of the following:




a] $x$ b] $PQ$

c] $OP$ d] $OQ$