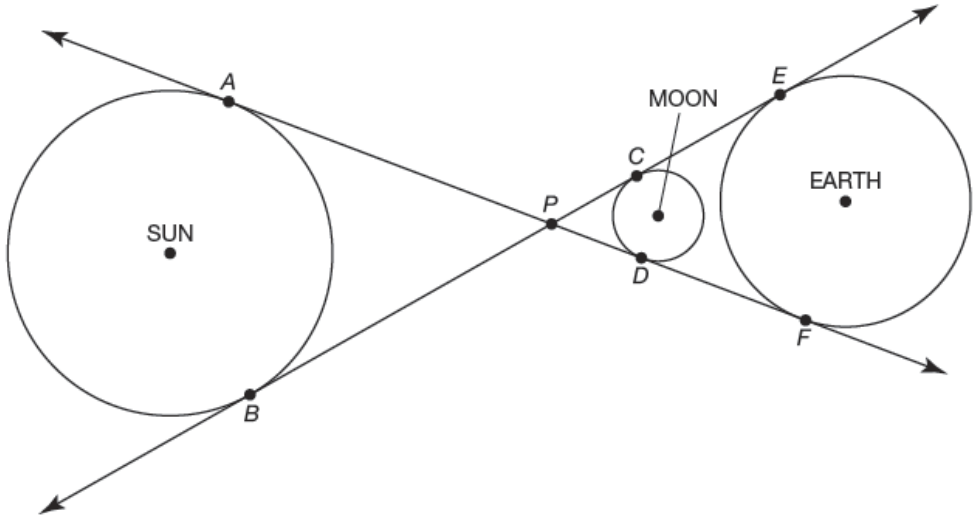
PAP Geometry **Name** _____

11.5 Tangents & Secants



1. Identify and measure the two tangent segments drawn from point *P* associated with the Sun. What do you notice about the lengths of the two segments?

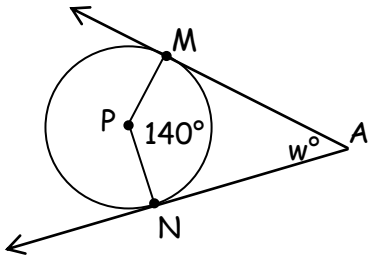
2. Identify and measure the two tangent segments drawn from point *P* associated with the Moon. What do you notice about the lengths of the two segments?

3. Identify and measure the two tangent segments drawn from point *P* associated with the Earth. What do you notice about the lengths of the two segments?

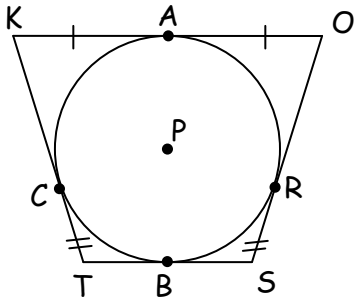
Conjecture: Two tangent segments from the same outside point are _____

P is the center of the circles. Find the following:

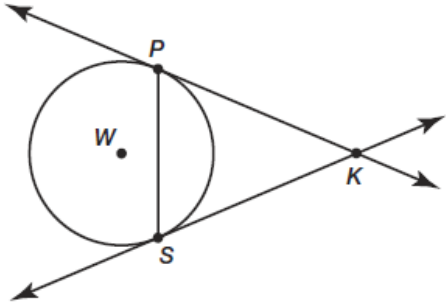
1. w = _____



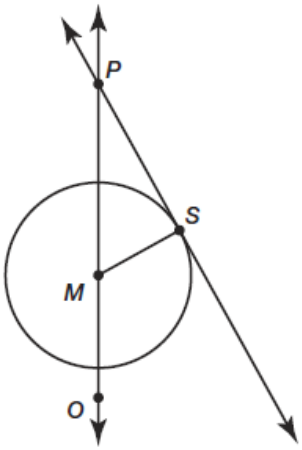
2. OR = 13 and RS = 12. Find the perimeter of KOST.



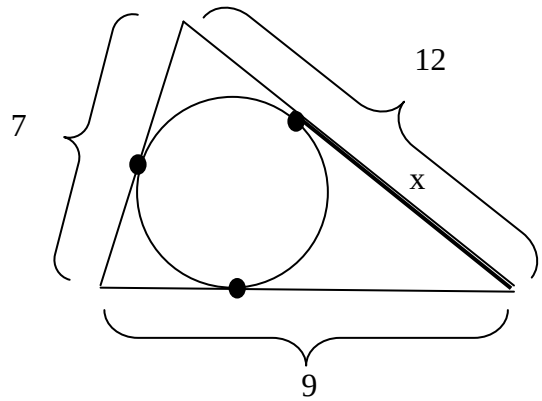
3. In the figure $\overleftrightarrow{KP}$ and $\overleftrightarrow{KS}$ are tangent to circle W and $m\angle PKS = 46^\circ$. Calculate $m\angle KPS$



4. In the figure $\overleftrightarrow{PS}$ is tangent to circle M and $m\angle SMO = 119^\circ$. Calculate $m\angle MPS$



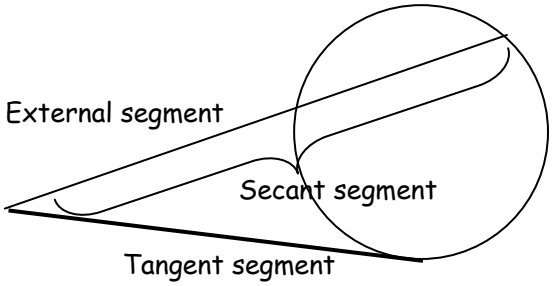
5. Find x.



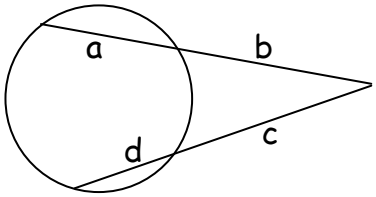
A secant segment _____

_____

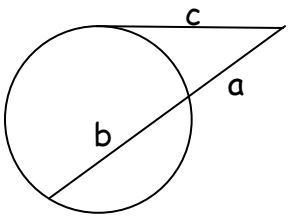
_____



2 secants intersecting outside the circle:

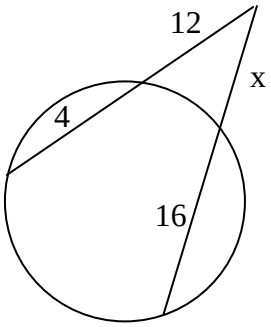


One secant and One tangent intersecting

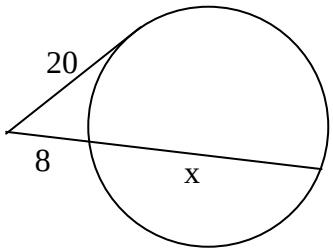


For #1-2, find x.

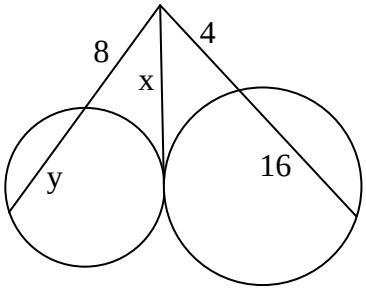
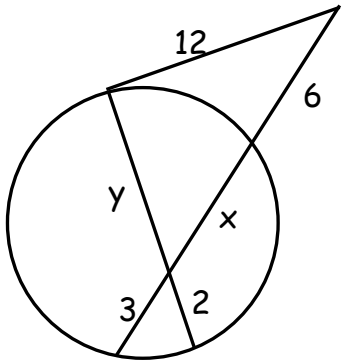
1.



2.



3. Find x and y.



4. Find x and y