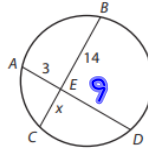


Bell Work

Given $AD = 12$. Find the value of x and the length of each chord.

$$14 \cdot x = 3 \cdot 9$$

$$\frac{14x}{14} = \frac{27}{14} \quad x = 1.93$$



$$AD = 12$$

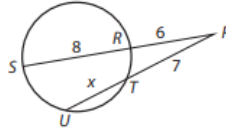
$$BC = 15.93$$

Find the value of x and the length of each secant segment.

$$(x+7) \cdot 7 = (8+6) \cdot 6$$

$$7x + 49 = 84$$

$$\begin{array}{r} 7x + 49 = 84 \\ -49 \quad -49 \\ \hline 7x = 35 \\ \frac{7x}{7} = \frac{35}{7} \end{array}$$



$$x = 5$$

$$SP = 14$$

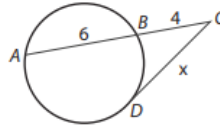
$$UP = 12$$

Find the value of x .

$$(6+4) \cdot 4 = x^2$$

$$\sqrt{40} = \sqrt{x^2}$$

$$6.32 = x$$



15.5 Angle Relationships in Circles

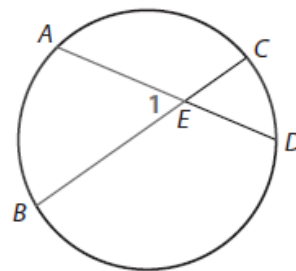
What are the relationships between angles formed by lines that intersect a circle?

The Intersecting Chords Angle Measure Theorem

If two secants or chords intersect in the interior of a circle, then the measure of each angle formed is half the sum of the measures of its intercepted arcs.

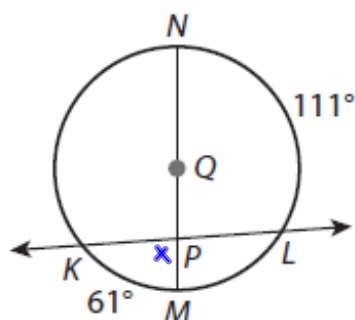
Chords \overline{AD} and \overline{BC} intersect at E .

$$m\angle 1 = \frac{1}{2}(m\widehat{AB} + m\widehat{CD})$$



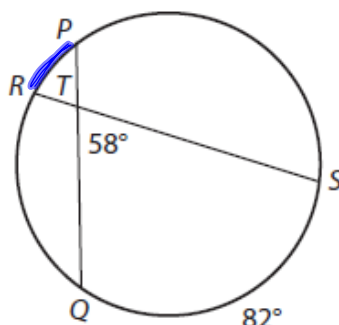
Find the unknown measure.

1. $m\angle MPK$ ps. 831 2. $m\widehat{PR}$



$$x = \frac{1}{2}(61 + 111)$$

$$x = 86^\circ$$



$$\text{ang} = \frac{1}{2}(\text{arc} + \text{arc})$$

$$58 = \frac{1}{2}(82 + x)$$

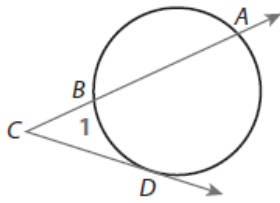
$$116 = 82 + x$$

$$-82 \quad -82$$

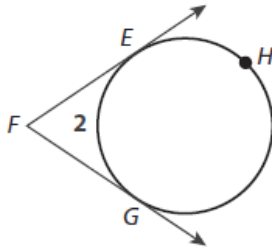
$$34 = x$$

The Tangent-Secant Exterior Angle Measure Theorem

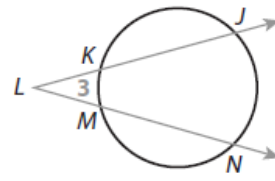
If a tangent and a secant, two tangents, or two secants intersect in the exterior of a circle, then the measure of the angle formed is half the difference of the measures of its intercepted arcs.



$$m\angle 1 = \frac{1}{2}(m\widehat{AD} - m\widehat{BD})$$



$$m\angle 2 = \frac{1}{2}(m\widehat{EHG} - m\widehat{EG})$$

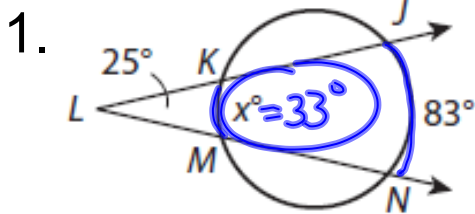


$$m\angle 3 = \frac{1}{2}(m\widehat{JN} - m\widehat{KM})$$

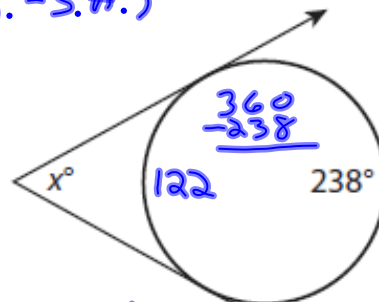
$$\text{ang} = \frac{1}{2}(\text{Big Arc} - \text{Small Arc})$$

Find the value of x for each.

P9. 833 $\text{ang} = \frac{1}{2}(\text{B.A.} - \text{S.A.})$



2.



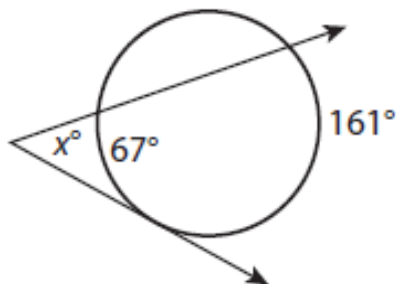
$$x = \frac{1}{2}(238 - 122)$$

$$x = 58^\circ$$

3.

$$x = \frac{1}{2}(161 - 67)$$

$$x = 47^\circ$$



page 836-837

3-6, 11-13