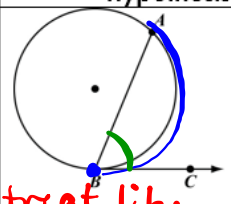
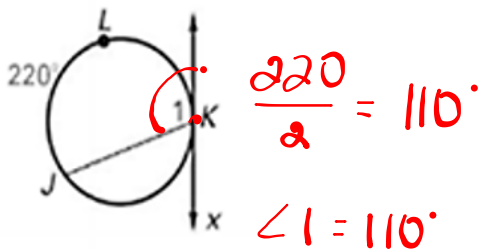


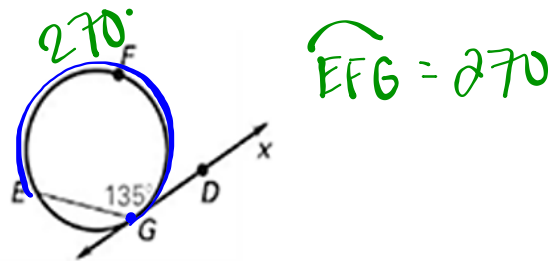
Angle Relationships (Vertex On, Inside & Outside)

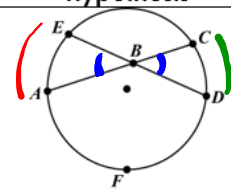
Name	Theorem	Hypothesis	Conclusion
Tangent Chord Theorem <u>(Vertex On)</u>	If a tangent and a chord intersect at a point on the circle, then the measure of each angle formed is one half the measure of its intercepted arc.	 <i>treat like inscribed</i>	$\angle B = \frac{AB}{2}$ $2\angle B = AB$

Example: Find the measure of angle 1.

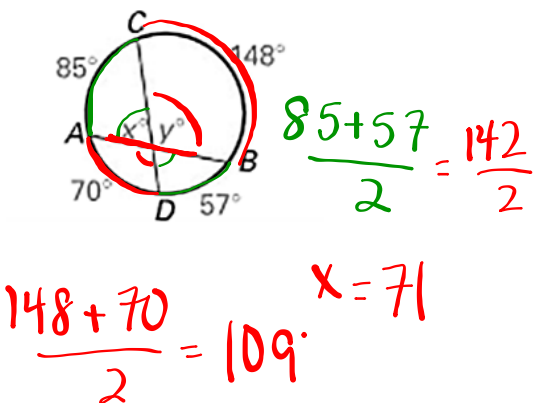


Example: Find the measure of arc EFG.

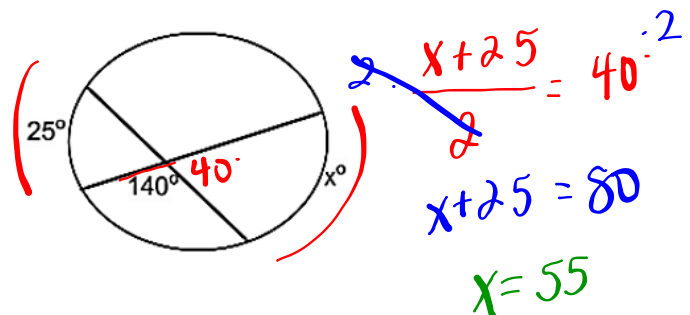


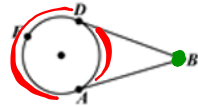
Name	Theorem	Hypothesis	Conclusion
Interior Angles of a Circle Theorem <u>(Vertex Inside)</u>	If two chords intersect inside the circle, then the measure of each angle is half the sum of the measures of the arcs intercepted by the angle and its vertical angle.		$\frac{\text{arc} + \text{arc}}{2} = \text{angle}$

Example: Find x and y.

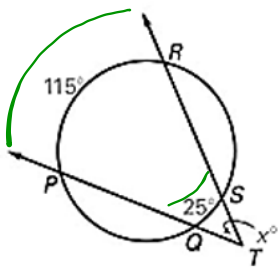


Example: Find the value of x.



Name	Theorem	Hypothesis	Conclusion
<p>Exterior Angles of a Circle Theorem (Vertex Outside)</p>	<p>If a tangent and a secant, two tangents, or two secants intersect outside the circle, then the measure of the angle formed is half the difference of the measures of the intercepted arcs.</p>		$\frac{\text{arc} - \text{arc}}{2} = \text{angle}$

Example: Find the value of x.

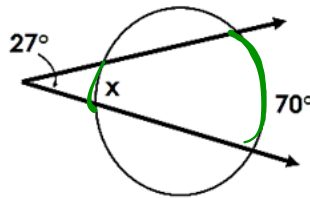


$$\frac{115 - 25}{2} = x$$

$$\frac{90}{2} = x$$

$$x = 45^\circ$$

Example: Find the value of x.



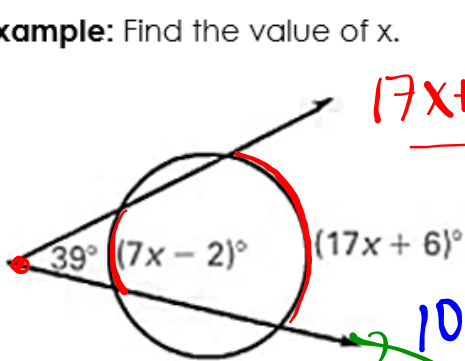
$$2 \cdot \frac{70 - x}{2} = 27 \cdot 2$$

$$70 - x = 54$$

$$-x = -16$$

$$x = 16$$

Example: Find the value of x.



$$\frac{17x + 6 - (7x - 2)}{2} = 39$$

$$2 \cdot \frac{10x + 8}{2} = 39 \cdot 2$$

$$10x + 8 = 78$$

$$10x = 70$$

$$x = 7$$