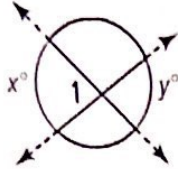
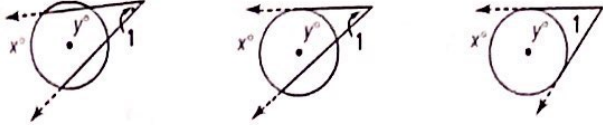
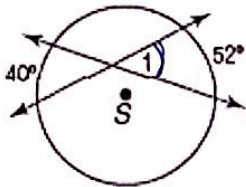


GUIDED NOTES: Angles Formed By Secants, Tangents, and Chords

Theorem 1:	Theorem 2:
<p>The measure of an angle formed by two lines that intersect inside a circle is half the sum of the measures of the intercepted arcs.</p> <div style="text-align: center;">  $m\angle 1 = \frac{1}{2}(x + y)$ </div>	<p>The measure of an angle formed by two lines that intersect outside a circle is half the difference of the measures of the intercepted arcs.</p> <div style="text-align: center;">  $m\angle 1 = \frac{1}{2}(x - y)$ </div>
In your own words...	In your own words...
$x = \frac{1}{2}(\text{its arc} + \text{other arc})$	$x = \frac{1}{2}(\text{big arc} - \text{lil arc})$

Find each measure.

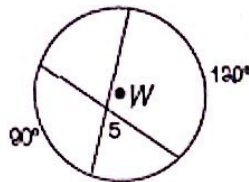
EX1: $m\angle 1$



$$m\angle 1 = \frac{1}{2}(52 + 40)$$

$m\angle 1 = 46^\circ$

EX2: $m\angle 5$



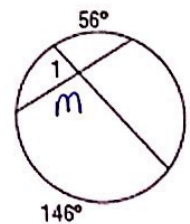
$$w = \frac{1}{2}(120 + 90)$$

$$w = 105$$

$$180 - 105 = m\angle 5$$

$m\angle 5 = 75^\circ$

EX3: $m\angle 1$



$$m = \frac{1}{2}(146 + 56)$$

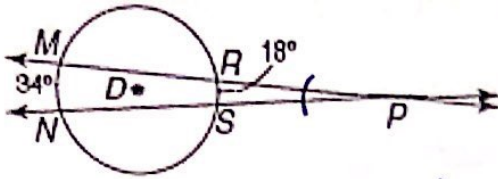
$$m = 101$$

$$180 - 101 = m\angle 1$$

$m\angle 1 = 79^\circ$

Find the following angles.

EX4: $m\angle MPN$

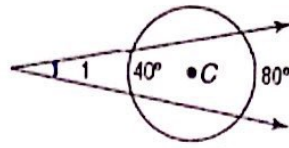


$$m\angle MPN = \frac{1}{2}(34 - 18)$$

$$m\angle MPN = 8^\circ$$

EX5:

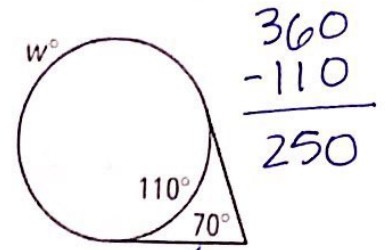
$m\angle 1$



$$m\angle 1 = \frac{1}{2}(80 - 40)$$

$$m\angle 1 = 20^\circ$$

EX6:



$$\begin{array}{r} 360 \\ -110 \\ \hline 250 \end{array}$$

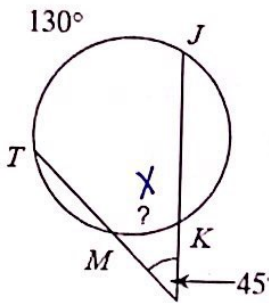
$$2 \cdot 70 = \frac{1}{2}(w - 110) \cdot 2$$

$$140 = x - 110$$

$$+110 \quad +110$$

$$x = 250$$

EX7:



$$2 \cdot 45 = \frac{1}{2}(130 - x) \cdot 2$$

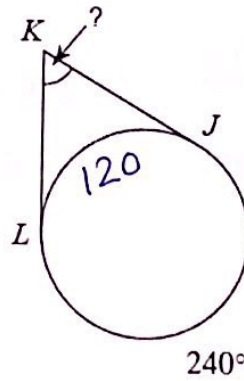
$$90 = 130 - x$$

$$-130 \quad -130$$

$$\frac{-40}{-1} = \frac{-x}{-1}$$

$$x = 40^\circ$$

EX8:



$$360 - 240 = 120$$

$$? = \frac{1}{2}(240 - 120)$$

$$? = 60^\circ$$