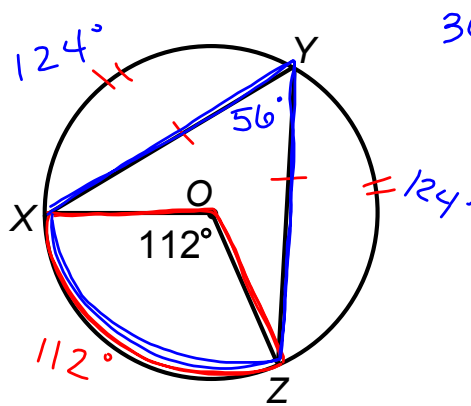


DO NOW

$\angle XYZ$ is inscribed in circle O and $\overline{YX} \cong \overline{YZ}$.
Find $m\angle XYZ$ and $m\widehat{XY}$.



$$360 - 112 = 248$$

$$\frac{248}{2} = 124$$

$$m\widehat{XY} = 124^\circ$$

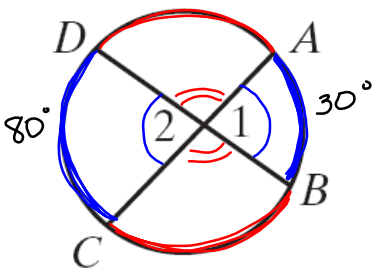
$$m\angle XYZ = \frac{1}{2}(112)$$

$$m\angle XYZ = 56^\circ$$

Mar 16-12:09 PM

Angles Formed by Two Intersecting Chords

Measure of the angle is half the sum of the intercepted arcs



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

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

EX: Find $m\angle 1$ if $m\widehat{DC} = 80$ and $m\widehat{AB} = 30$

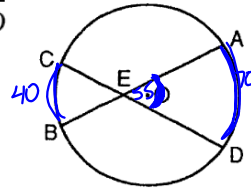
$$m\angle 1 = \frac{1}{2}(80 + 30)$$

$$m\angle 1 = \frac{1}{2}(110)$$

$$m\angle 1 = 55^\circ$$

Mar 18-10:15 AM

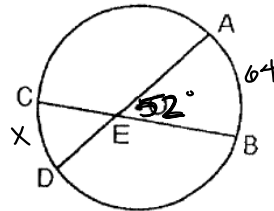
1. In the accompanying diagram, chords \overline{AB} and \overline{CD} intersect at E . If $m\widehat{AD} = 70$ and $m\widehat{BC} = 40$, find $m\angle AED$.



$$m\angle AED = \frac{1}{2}(70 + 40)$$

$$m\angle AED = 55^\circ$$

2. In the accompanying diagram of circle O , $m\widehat{AB} = 64$ and $m\angle AEB = 52$. What is the measure of \widehat{CD} ?



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

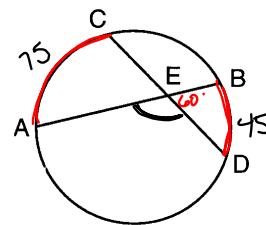
$$2 \cdot 52 = \frac{1}{2}(x + 64)$$

$$\begin{array}{r} 104 = x + 64 \\ -64 \quad -64 \\ \hline 40 = x \end{array}$$

$$m\widehat{CD} = 40^\circ$$

Mar 21-10:14 AM

3. In the accompanying diagram, chords \overline{AB} and \overline{CD} intersect at E . If $m\widehat{AC} = 75$ and $m\widehat{DB} = 45$, find $m\angle AED$.



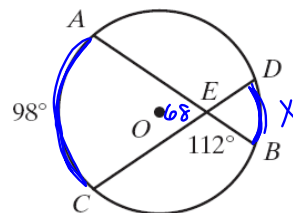
$$m\angle BED = \frac{1}{2}(75 + 45)$$

$$m\angle BED = \frac{1}{2}(120)$$

$$m\angle BED = 60^\circ$$

$$180 - 60 = 120^\circ$$

4. In circle O , chords \overline{AB} and \overline{CD} intersect at E . If $m\widehat{AC} = 98$ and $m\angle CEB = 112$, what is $m\widehat{DB}$?



$$2 \cdot 68 = \frac{1}{2}(98 + x)$$

$$136 = 98 + x$$

$$38 = x$$

$$m\widehat{DB} = 38^\circ$$

Mar 21-10:23 AM