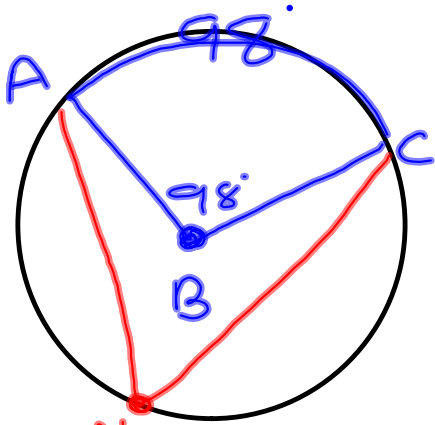


3-6-14
5th Geo



$\odot B$

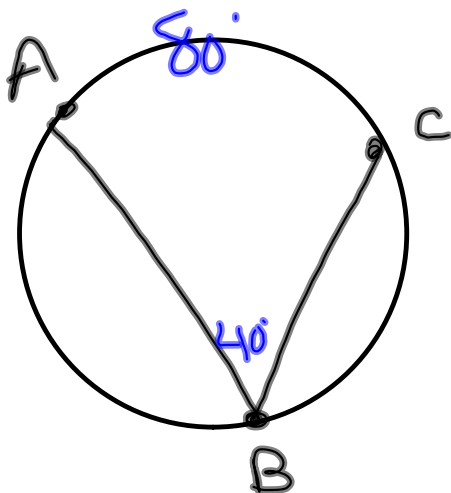
If $\angle ABC = 98^\circ$,

$\widehat{AC} = 98^\circ$

If on the
circle, the \angle
is $\frac{1}{2}$.

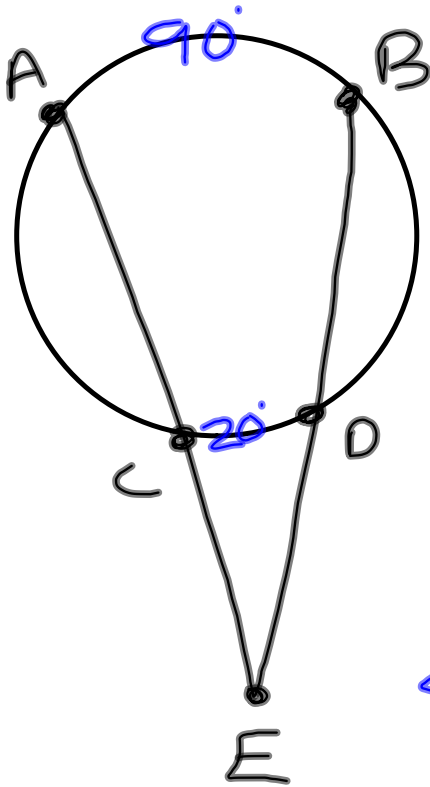
$\angle ANC = 49^\circ$

Called an inscribed \angle .



If $\angle ABC = 40^\circ$,
what is \widehat{AC} ?

80°



$$\widehat{AB} = 90^\circ$$

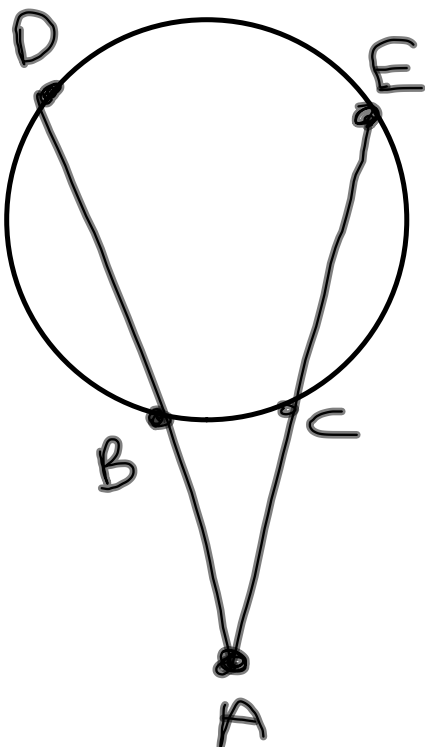
$$\widehat{CD} = 20^\circ$$

$$\angle E = ? \quad 35^\circ$$

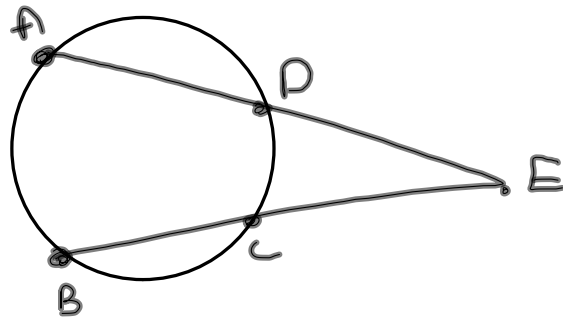
$$\angle E = \frac{1}{2}(\widehat{AB} - \widehat{CD})$$

$$\angle E = \frac{1}{2}(90 - 20)$$

$$\angle E = 35^\circ$$

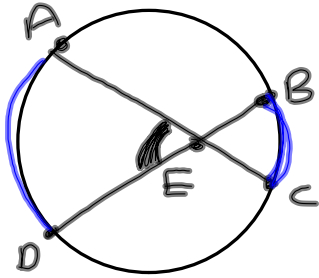


$$\angle A = \frac{1}{2}(\widehat{DE} - \widehat{BC})$$

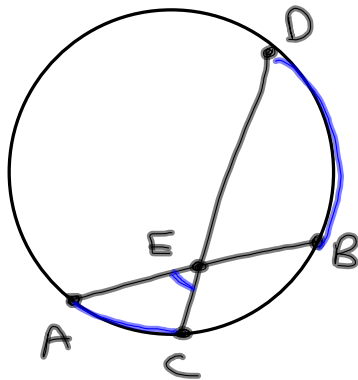


If $\widehat{CD} = 42^\circ$ and $\widehat{AB} = 110^\circ$, what is $\angle E$?

$$\begin{aligned}\angle E &= \frac{1}{2}(\widehat{AB} - \widehat{CD}) \\ &= \frac{1}{2}(110 - 42) \\ &= \frac{1}{2} \cdot 68 \\ &= 34^\circ\end{aligned}$$

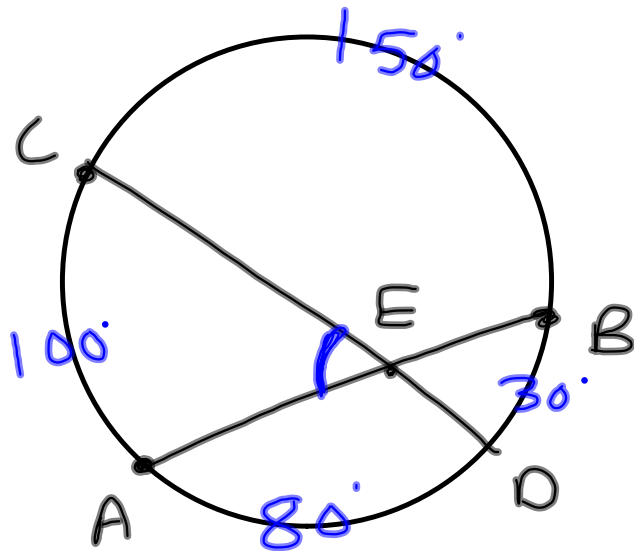


$$\angle AED = \frac{1}{2}(\widehat{AD} + \widehat{BC})$$



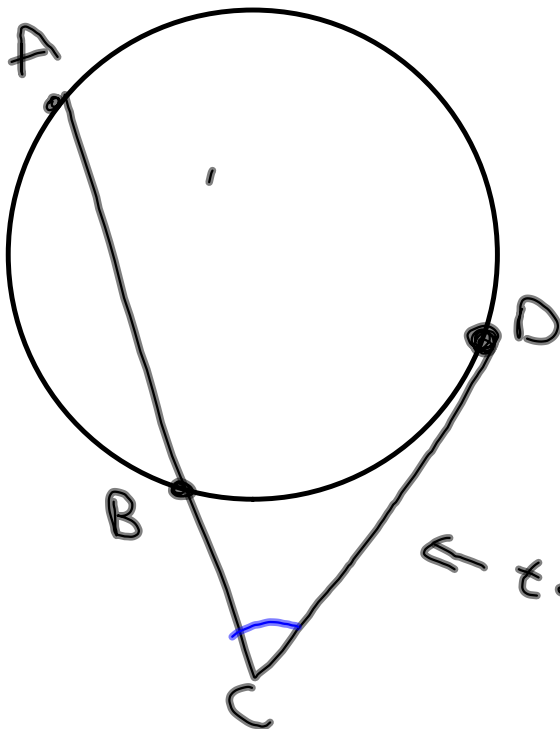
If $\widehat{AC} = 30^\circ$ and $\widehat{BD} = 70^\circ$, what is $\angle AEC$?

$$\begin{aligned}\angle AEC &= \frac{1}{2}(\widehat{BD} + \widehat{AC}) \\ &= \frac{1}{2}(70 + 30) \\ &= 50^\circ\end{aligned}$$



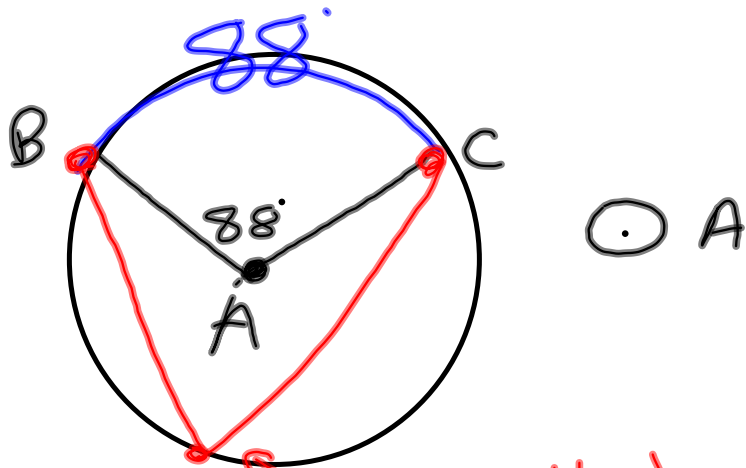
$\widehat{CB} = 150^\circ$, $\widehat{BD} = 30^\circ$, $\widehat{AD} = 80^\circ$.
 Find $\angle AEC$.

$$\begin{aligned}
 \angle AEC &= \frac{1}{2} (\widehat{AC} + \widehat{BD}) \\
 &= \frac{1}{2} (100 + 30) \\
 &= 65^\circ
 \end{aligned}$$



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

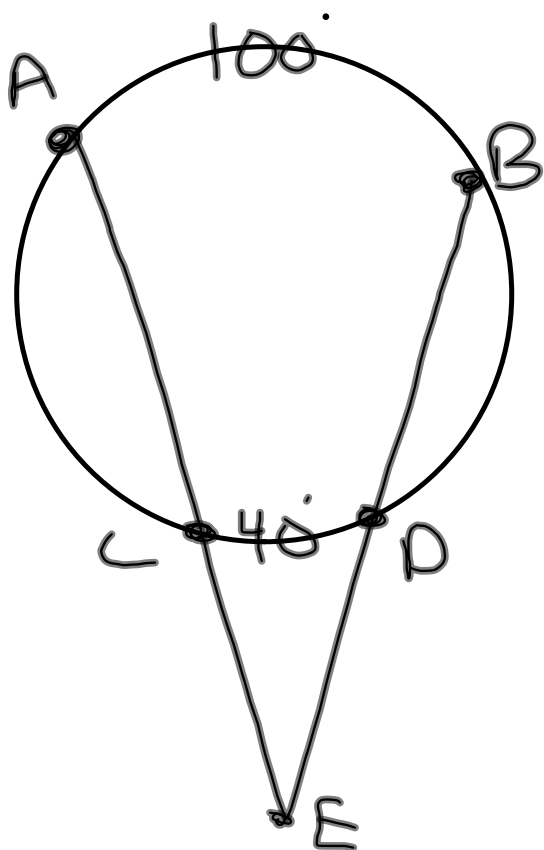
\leftarrow tangent line



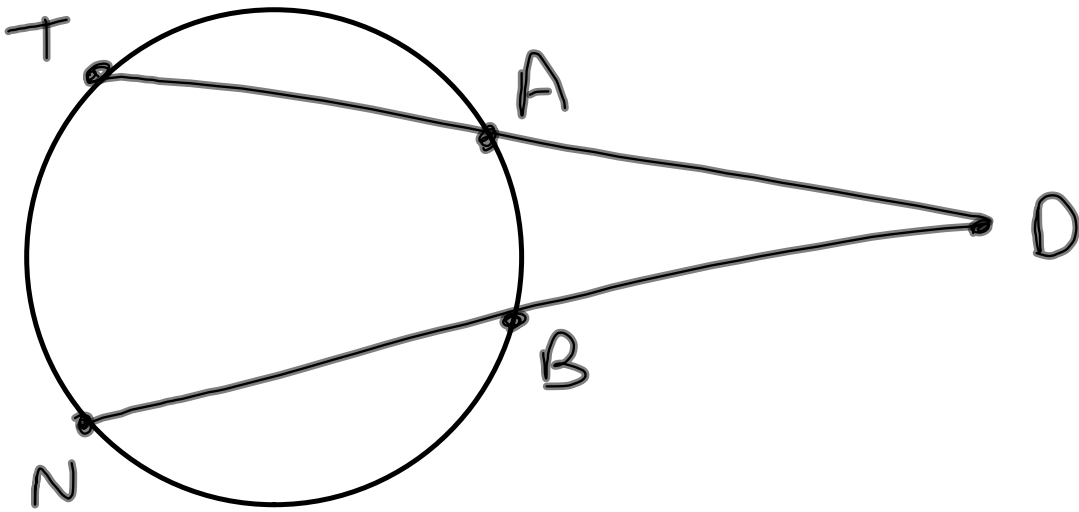
⊙ A

$\angle BNC$ inscribed angle

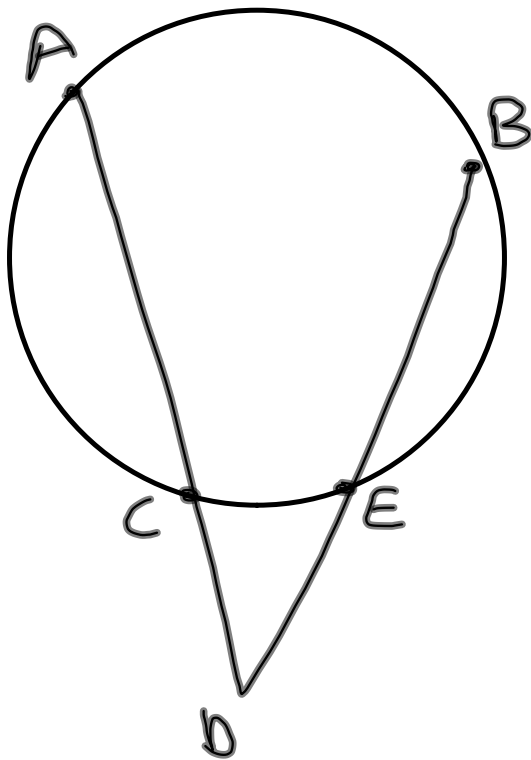
$$\angle BNC = 44^\circ$$



$$\begin{aligned} \angle E &= \frac{1}{2} (100 - 40) \\ &= \frac{1}{2} \cdot 60 \\ &= 30^\circ \end{aligned}$$



$$\angle D = \frac{1}{2} (\widehat{TN} - \widehat{AB})$$



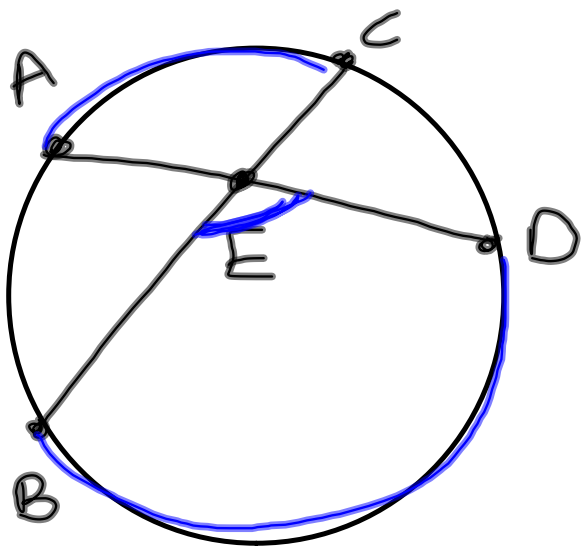
$$\widehat{AB} = 110 \quad \widehat{CE} = 52$$

$$\angle D = ?$$

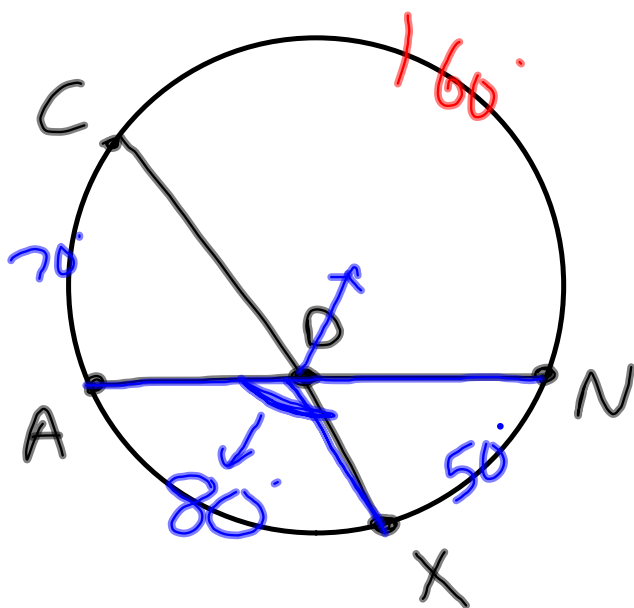
$$\angle D = \frac{1}{2} (110 - 52)$$

$$= \frac{1}{2} \cdot 58$$

$$= 29$$

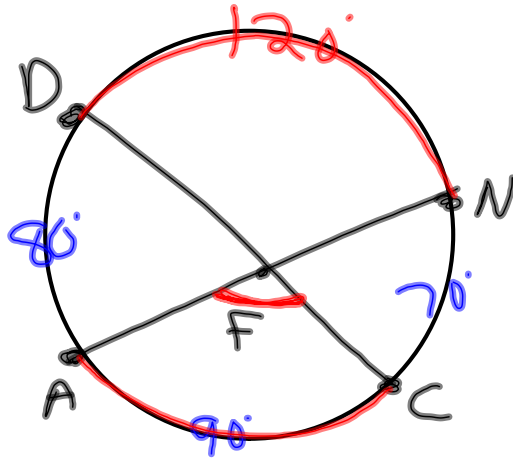


$$\angle BED = \frac{1}{2} (\widehat{AC} + \widehat{BD})$$



$$\widehat{AX} = 80^\circ \quad \widehat{XN} = 50^\circ \quad \widehat{AC} = 70^\circ$$

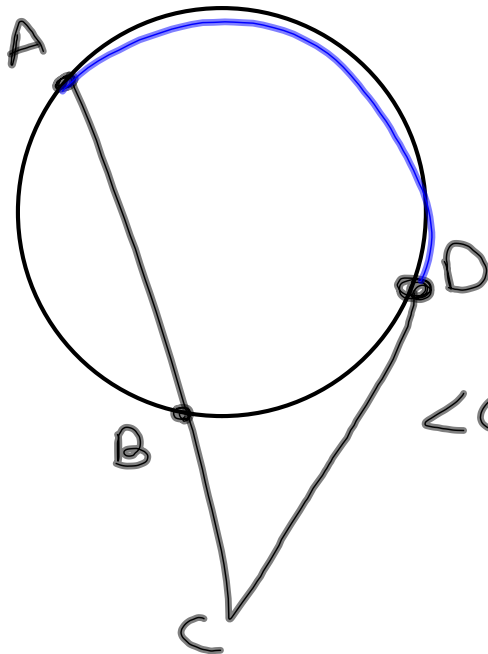
$$\angle AOX = ? \quad \frac{1}{2} (160 + 80) = 120^\circ$$



$$\widehat{AD} = 80^\circ \quad \widehat{AC} = 90^\circ \quad \widehat{CN} = 70^\circ.$$

Find $\angle AFC$?

$$= \frac{1}{2}(90 + 120) = 105^\circ$$



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