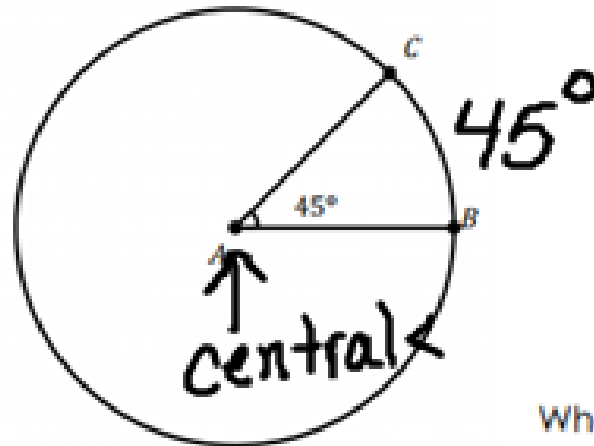


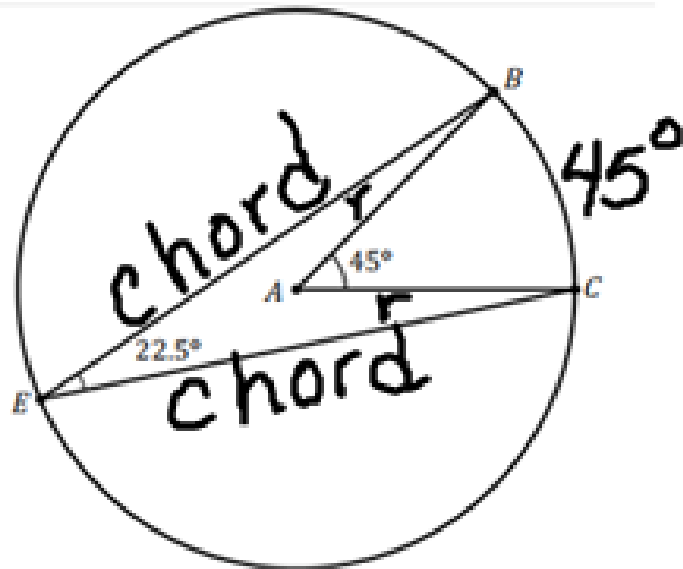
The measure of an arc on a circle is equal to the degree measure of the Central \angle that intercepts the arc.



What is $m\widehat{BC}$? $= 45^\circ$

Consider the figure below. $\angle E$ is an inscribed angle. \widehat{BC} is an intercepted arc by both the central angle $\angle A$ and the inscribed angle.

$m\angle BEC$
∨
 $m\angle BAC$
∨

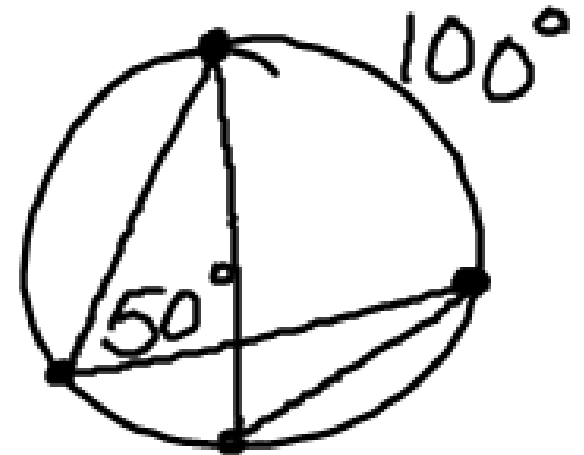


Define the inscribed angle.

Compare and contrast the inscribed angle and the intercepted arc.

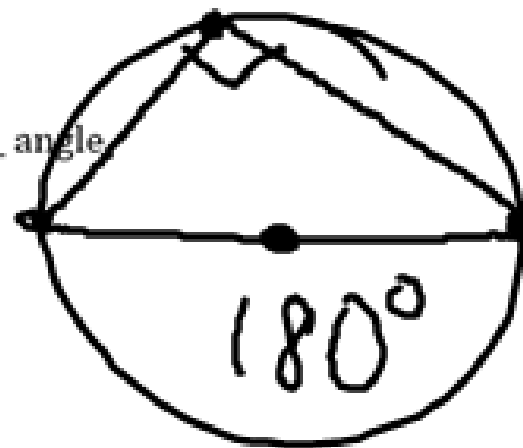
Inscribed < Conjectures

In a circle, the measure of an inscribed angle is $\frac{1}{2}$ the measure of the central angle with the same intercepted arc.



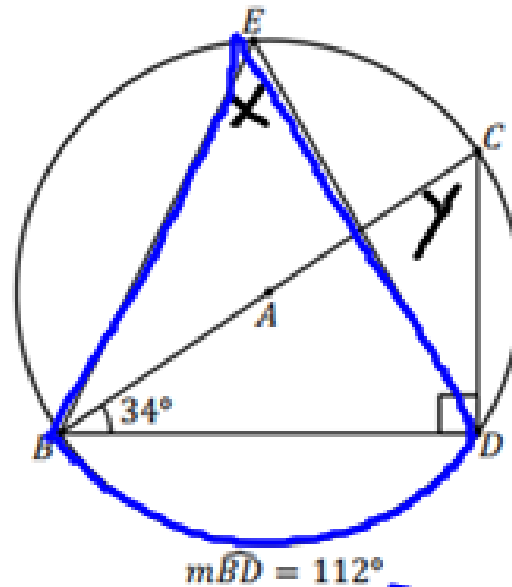
In a circle, two inscribed angles with the same intercepted arc are congruent.

Any angle inscribed in a semicircle is a right angle.



Practice:

Consider circle A in the following figure, and find $m\angle BED$, $m\angle BCD$, & $m\widehat{CD}$.

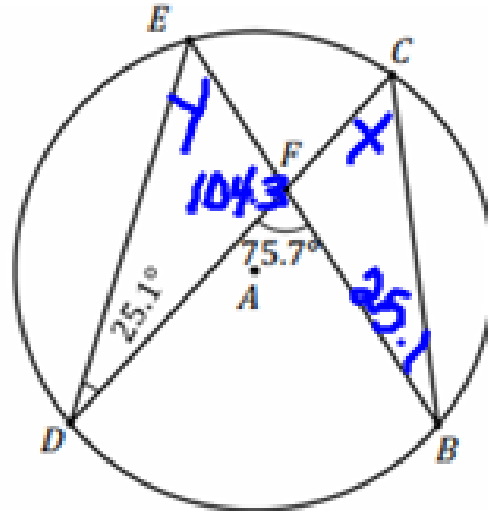


$$z = 34(2) = 68^\circ$$

$$m\angle BED = \frac{1}{2}(112) = 56^\circ$$
$$m\angle BCD = 56^\circ$$

Your turn:

Consider circle A in the following figure, and find $m\angle BCF$, $m\angle BED$, & $m\widehat{DB}$.



$$\begin{array}{r} 180 \\ - 75.7 \\ \hline \end{array}$$

$$104.3$$

$$25.1$$

$$\hline 129.4$$

$$\begin{array}{r} 180 \\ - 129.4 \\ \hline \end{array}$$

$$50.6 = m\angle BED$$

$$50.6 = m\angle BCF$$

$$z = 101.2$$

$$50.6(2) = 101.2$$