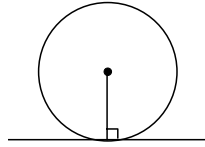
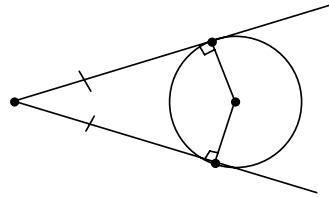


# Ch. 9 Circle's

Tangents:

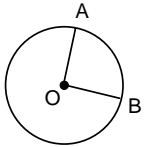


Tangents are  $\perp$  to a radius

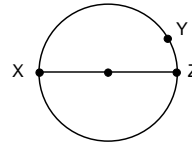


$$PA \cong PB$$

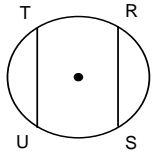
Arcs and Central Angles:



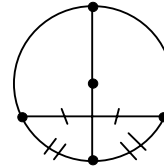
central angle arc  
 $m\angle AOB = m\widehat{AB}$



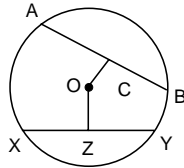
Arcs and Chords:



If  $\overline{TU} \cong \overline{RS}$   
 Then  $\widehat{TU} \cong \widehat{RS}$

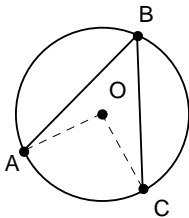


A diameter is  $\perp$  to a chord and it bisects the chord and the arc



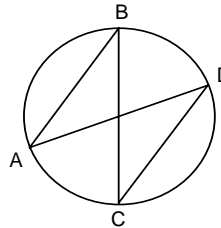
Congruent chords are equidistant from the center. If  $\overline{AB} \cong \overline{XY}$ , then  $OC = OZ$

Inscribed Angles:

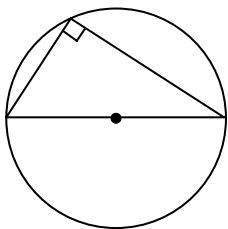


$$m\angle ABC = \frac{1}{2} m\angle AOC$$

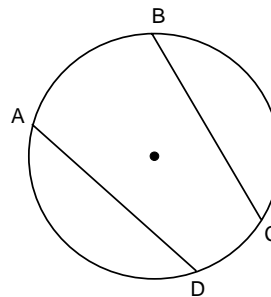
$$m\angle ABC = \frac{1}{2} m\widehat{AC}$$



$$\angle B \cong \angle D$$

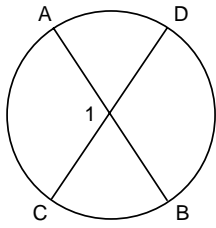


an angle inscribed in a semicircle is a right angle

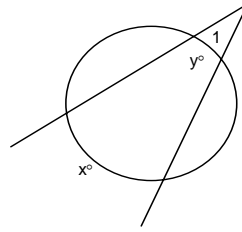


A quadrilateral inscribed in a circle-opposite angles are supplementary

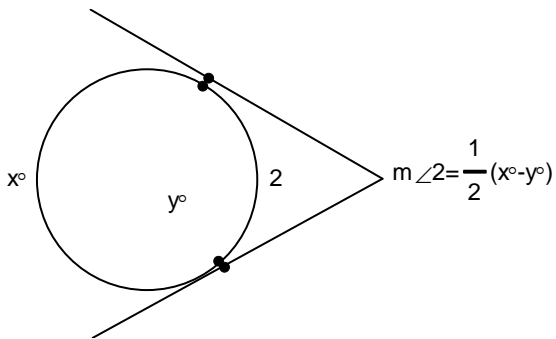
## Other Angles



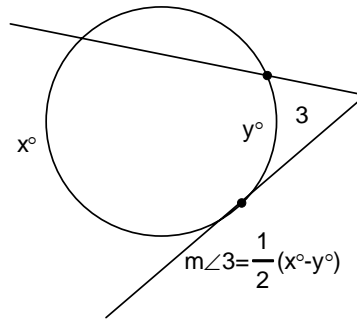
$$m\angle 1 = \frac{1}{2}(m\widehat{AC} + m\widehat{BD})$$



$$m\angle 1 = \frac{1}{2}(x^\circ - y^\circ)$$

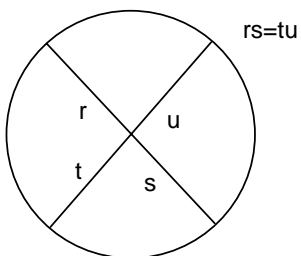


$$m\angle 2 = \frac{1}{2}(x^\circ - y^\circ)$$

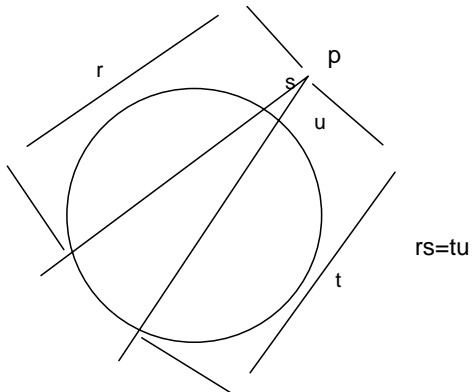


$$m\angle 3 = \frac{1}{2}(x^\circ - y^\circ)$$

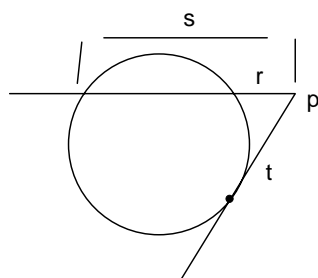
## Segment Length



$$rs=tu$$



$$rs=tu$$



$$rs=t^2$$