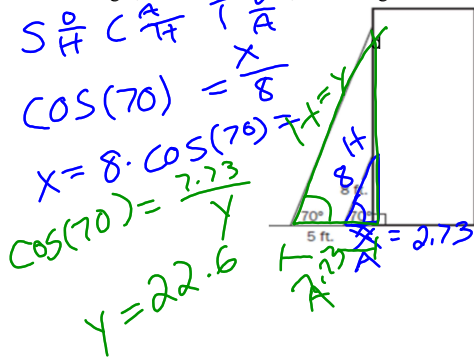


Inscribed Angles

This diagram shows two ladders leaning against a building. Each ladder is leaning at an angle of 70° .

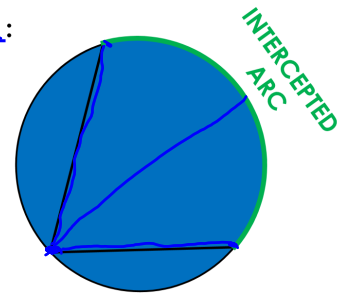
- The length of the short ladder is 8 ft.
- The base of the longer ladder is 5 feet further from the base of the building than the base of the short ladder is.

What is the length, to the nearest foot, of the long ladder?

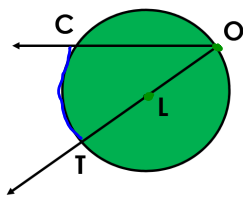


Inscribed \angle :

An angle whose Vertex is on the circle and whose sides are chords of the circle



Ex 1.



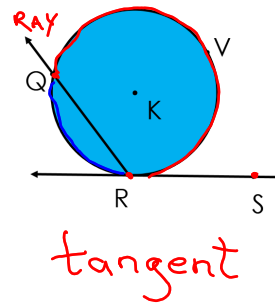
Name the inscribed angle.

$\angle TOC$
 $\angle COT$

Name the intercepted arc for the angle.

$\widehat{CT} < 180^\circ$

Ex 2.

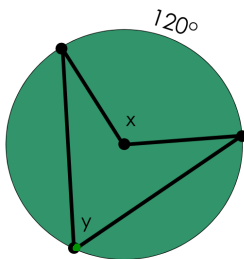


Name the inscribed angle.

$\angle QRS$

Name the intercepted arc for the angle.

$\widehat{QVR} > 180^\circ$



What type of angle is angle x?

Central \angle

What is the measure of angle x?

120°

What type of angle is angle y?

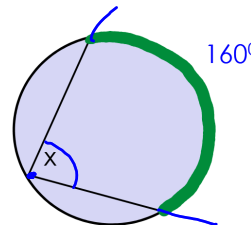
Inscribed \angle

What is the measure of angle y?

60°

The measure of the Intercepted arc is double the measure of the Inscribed angle!!

Ex 3. Find the measure of angle x.



$x = 80^\circ$

Inscribed Angles

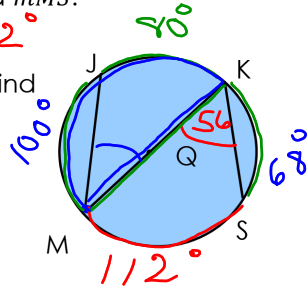
Examples

4. If $m\widehat{JK} = 80^\circ$, find $m\angle JMK$. 40°

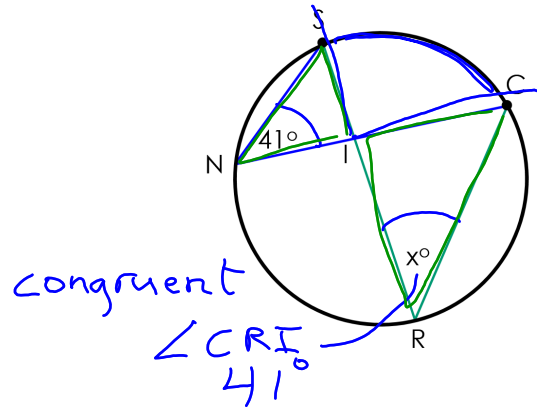
5. If $m\angle MKS = 56^\circ$, find $m\widehat{MS}$.

6. If \overline{MK} is a diameter, find $m\widehat{KS}$ and $m\widehat{JM}$.

68° 100°



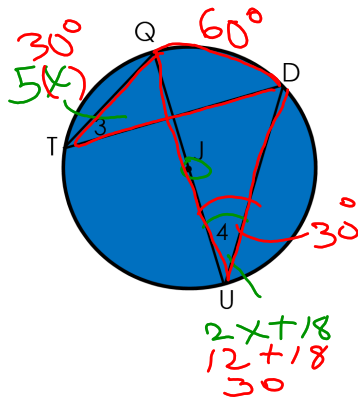
Ex 7. If $m\angle INS = 41^\circ$, what is the $m\angle CRI$?



Example 8

In $\odot J$, $m\angle 3 = 5x$ and $m\angle 4 = 2x + 18$.

Find the value of x .



$$\begin{array}{r} 5x = 2x + 18 \\ -2x \quad -2x \\ \hline 3x = 18 \\ \hline x = 6 \end{array}$$

Example 9

In $\odot K$, $m\widehat{AC} = 100^\circ$, What is the $m\angle CAT$?

