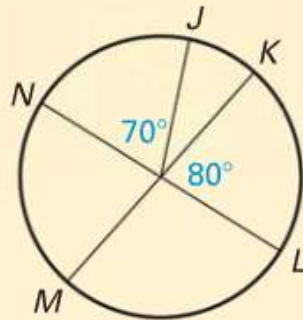
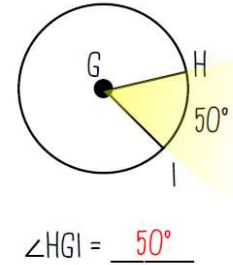
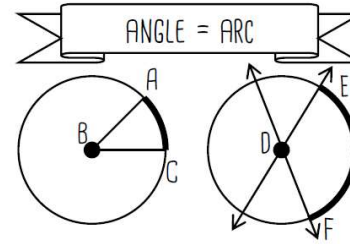


## Warm up

- a.  $m\widehat{JK}$
- b.  $m\widehat{NM}$
- c.  $m\widehat{LM}$
- d.  $m\widehat{KNM}$
- e.  $m\widehat{NK}$
- f.  $m\widehat{LJM}$



## Central Angle



$$\angle HGI = \underline{50^\circ}$$

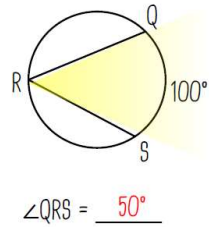
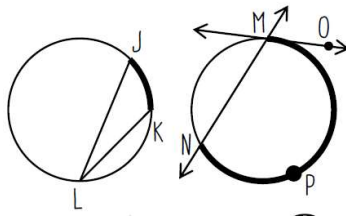
## Inscribed Angles and Inscribed Quadrilaterals

## Inscribed Angle

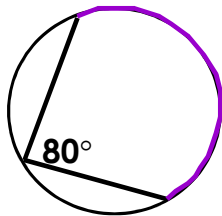
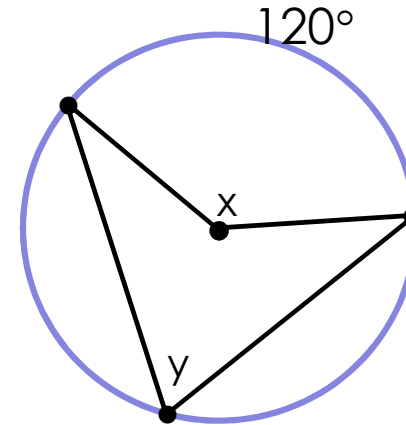
- Definition: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Inscribed Angle

ANGLE =  $\frac{1}{2}$  ARC



Find the value of  $x$  and  $y$ .

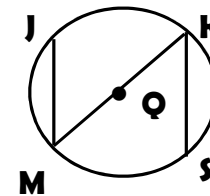


The arc is twice as big as the angle!!



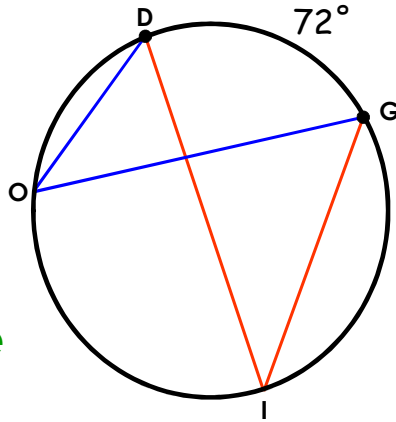
## Examples

- If  $m\widehat{JK} = 80^\circ$  and  $\angle JMK = 2x - 4$ , find  $x$ .
- If  $m\angle MKS = 56^\circ$ , find  $m\widehat{MS}$ .

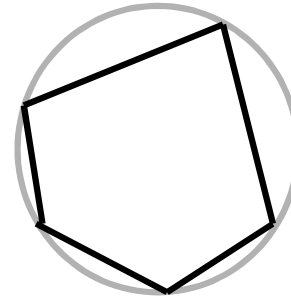


Find the measure of  $\angle DOG$  and  $\angle DIG$

If two inscribed angles intercept the same arc, then they are congruent.

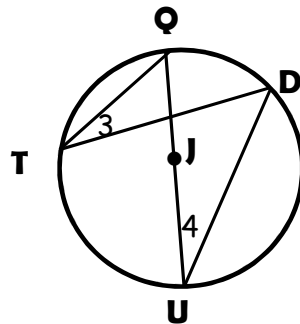


If all the vertices of a polygon touch the edge of the circle, the polygon is \_\_\_\_\_ and the circle is CIRCUMSCRIBED.

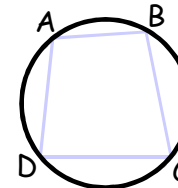


Example 3

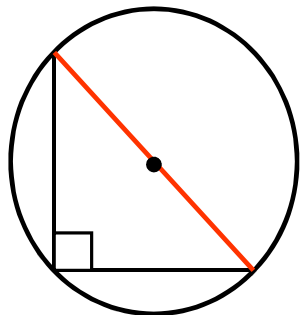
In  $\odot J$ ,  $m \angle 3 = 5x$  and  $m \angle 4 = 2x + 9$ .  
Find the value of  $x$ .



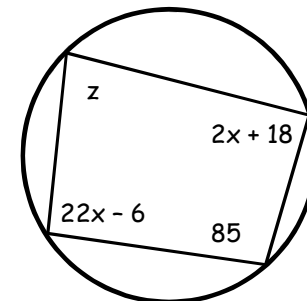
**Quadrilateral inscribed in a circle:**  
**opposite angles are \_\_\_\_\_**



If a right triangle is inscribed in a circle then the \_\_\_\_\_ is the \_\_\_\_\_ of the circle.



**Example 5** Solve for  $x$  and  $z$ .



**Example 4**

In  $\odot K$ ,  $\overline{GH}$  is a diameter and  $m\angle GNH = 4x - 14$ . Find the value of  $x$ .

