

Warm up

- $m\widehat{JK}$
- $m\widehat{NM}$
- $m\widehat{LM}$
- $m\widehat{KNM}$
- $m\widehat{NK}$
- $m\widehat{LJM}$

1

Case I: Central Angle: Vertex is AT the center

Central ANGLE = ARC

2

Case II: Inscribed Angle: Vertex is ON circle

$\text{Inscribed Angle} = \frac{\text{Intercepted Arc}}{2}$

3

$\text{Inscribed Angle} = \frac{\text{Intercepted Arc}}{2}$

The arc is twice as big as the angle!!

4

Find the value of x and y

5

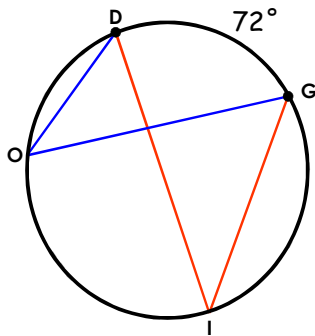
Examples

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

6

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

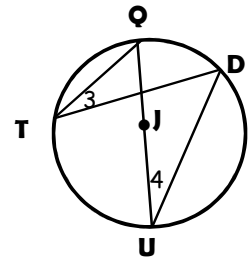
If two inscribed angles intercept the same arc, then they are _____.



7

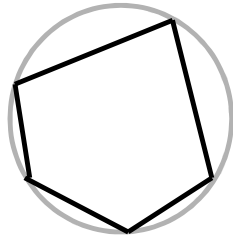
Example 3

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



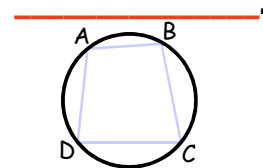
8

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



9

a quadrilateral inscribed in a circle: opposite angles are _____.

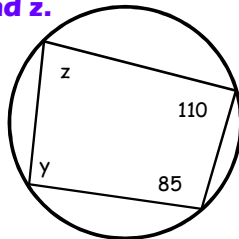


$$m\angle A + m\angle C = 180$$

$$m\angle B + m\angle D = 180$$

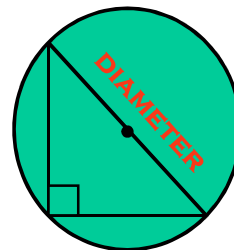
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Example 4 Find y and z .



11

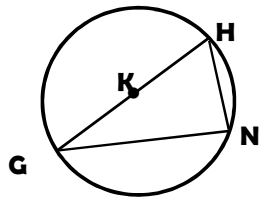
If a right triangle is inscribed in a circle then the _____ will be the diameter of the circle.



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Example 5

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



Bonus: What type of triangle is this? Why?