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Remember Central Angles? Meet the Inscribed Angle...

$x = 106$
(Central, Center, Same!)

$x \neq 106!$

An **inscribed angle** has a vertex on a circle and sides that contain chords of the circle.

The **measure** of an inscribed angle is equal to **half** the measure of its **intercepted arc**.

So... $x = 53!$

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Examples:

1 $m\angle X$

2 $m\angle Q$

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A few theorems...

Theorem 10.7

Words If two inscribed angles of a circle intercept the same arc or congruent arcs, then the angles are congruent.

Example $\angle B$ and $\angle C$ both intercept \widehat{AD} . So, $\angle B \cong \angle C$.

Theorem 10.8

Words An inscribed angle of a triangle intercepts a diameter or semicircle if and only if the angle is a right angle.

Example If \widehat{FJH} is a semicircle, then $m\angle G = 90$. If $m\angle G = 90$, then \widehat{FJH} is a semicircle and \widehat{FH} is a diameter.

Theorem 10.9

Words If a quadrilateral is inscribed in a circle, then its opposite angles are supplementary.

Example If quadrilateral $KLMN$ is inscribed in $\odot A$, then $\angle L$ and $\angle N$ are supplementary and $\angle K$ and $\angle M$ are supplementary.

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Examples:

1

2

3

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Practice Problems

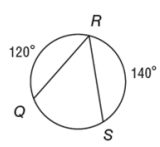
1 $m\angle N$

2 $m\widehat{QSR}$

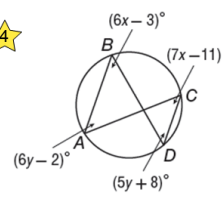
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Practice Problems

3 $m\angle R$



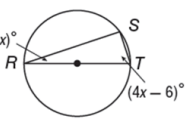
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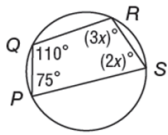
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Practice Problems

5



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Attachments

10-4 Notes.gsp