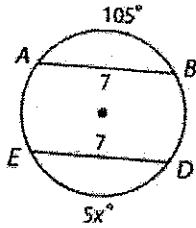


March 25

10.4 Warm-Up

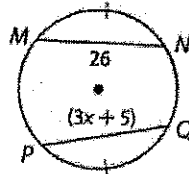
1. Find the value of x .



$$\frac{106}{5} = \frac{5x}{5}$$

$$21 = x$$

2. Find the value of x .

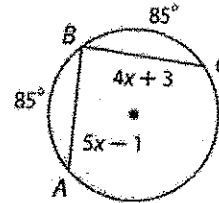


$$26 = 3x + 5$$

$$21 = 3x$$

$$7 = x$$

3. Find the value of x .



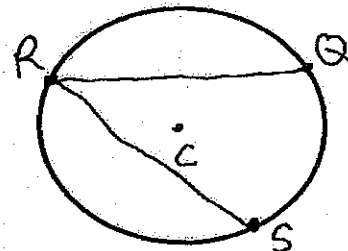
$$4x + 3 = 5x - 1$$

$$4 = x$$

10.4 Inscribed Angles

Target: Use properties of inscribed \angle 's to solve problems

An inscribed angle has a vertex on a circle and sides that contain chords of the circle. In $\odot C$, $\angle QRS$ is an inscribed angle.



There are three ways that an angle can be inscribed in a circle.

Case 1	Case 2	Case 3

Inscribed Angle Formula

vertex on side of circle

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

$$\text{Intercepted Arc} = 2(\text{Inscribed Angle})$$

Example 1 Use Inscribed Angles to Find Measures

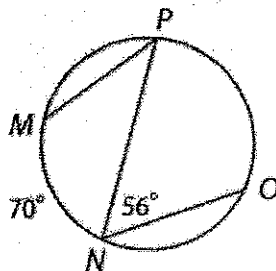
Find each measure.

a. $m\angle P$

$$\frac{70}{2} = 35^\circ$$

b. $m\widehat{PO}$

$$56(2) = 112^\circ$$



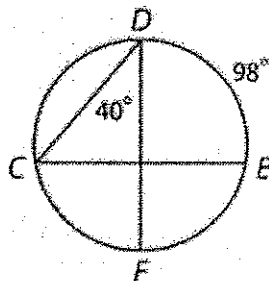
Guided Practice

1A. $m\widehat{CF}$

$$40(2) = 80^\circ$$

1B. $m\angle C$

$$\frac{98}{2} = 49^\circ$$

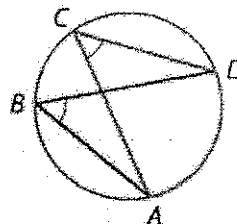


Two inscribed angles that intercept the same arc of a circle are related.

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, $\angle B \cong \angle C$.



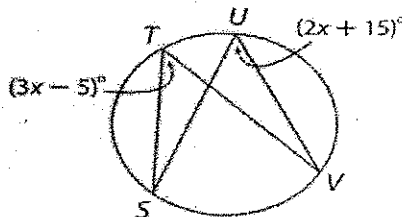
Example 2 Use Inscribed Angles to Find Measures

ALGEBRA Find $m\angle T$.

$$3x - 5 = 2x + 15$$

$$x = 20$$

$$T = 55^\circ$$



Guided Practice

2. If $m\angle S = 3x$ and $m\angle V = (x + 16)$, find $m\angle S$.

$$3x = x + 16$$

$$2x = 16$$

$$x = 8$$

$$S = 3(8)$$

$$S = 24$$