Geometry Unit 7

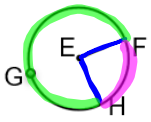
I can use work with circle properties.

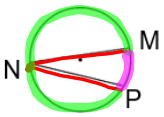
	Notes	Example problems
G7-1 I can use the properties of central and inscribed angles in a circle.		
G7-2 I can identify the parts of a circle and properties of chords and tangent lines.		
G7-3 I can derive pi and find the circumference of a circle and the arclength given a central angle.		
G7-4 I can find the area of a circle.		
G7-5 I can find the area of a sector.		
G7-6 I can apply circle properties.		
Warm-up	****G7-7 I can write the equation of a circle on the coordinate grid and graph a circle given the equation.	

Warm-up group test day ??????????	Warm-up on test day. ????????????	10 stamps = A second rough grade on a test. "Which ones are still wrong?" 10 stamps = I **point** out where you made your error on a test problem.

radius: $\overline{EF}$ $\overline{HE}$
central angle: $\angle FGH$
inscribed angle: $\angle MNP$

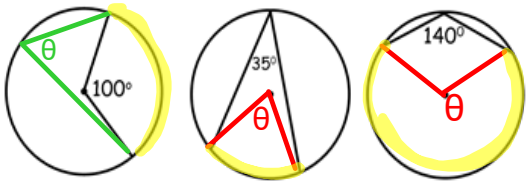
two major arcs: $\overset{\frown}{FGH}$ $\overset{\frown}{MNP}$
two minor arcs: $\overset{\frown}{FH}$ $\overset{\frown}{MP}$
intercepted arc: $\overset{\frown}{FH}$ $\overset{\frown}{MP}$





Property #1:

The measure of the INSCRIBED ANGLE is ALWAYS half the measure of the central angle with the same intercepted arc.

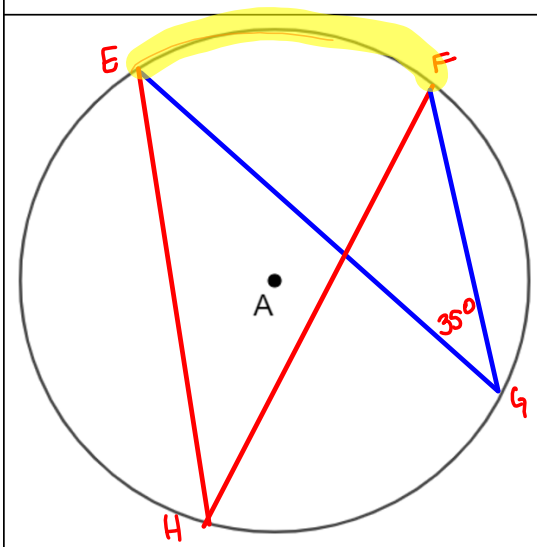


$\theta = \frac{100^\circ}{2} = 50^\circ$ $\theta = 35^\circ(2) = 70^\circ$ 280°

central angle --> inscribed angle (divide by 2)

inscribed angle --> central angle (times 2)

G7.1.Investigation 2 ***Inscribed angles with a common intercepted arc***



Instructions:

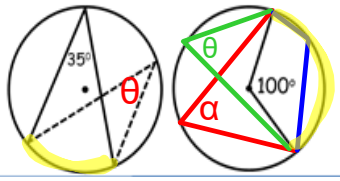
1. Draw points E,F,G,H on the circle.
2. Draw ∠EGF
   Name the intercepted arc: EF
3. Draw ∠EHF
   Name the intercepted arc: _____
4. Using a protractor measure your angles.

m∠EGF=	m∠EHF=

What do you notice about the two angles?

Property #2:

Inscribed angles that intercept the same arc are congruent.

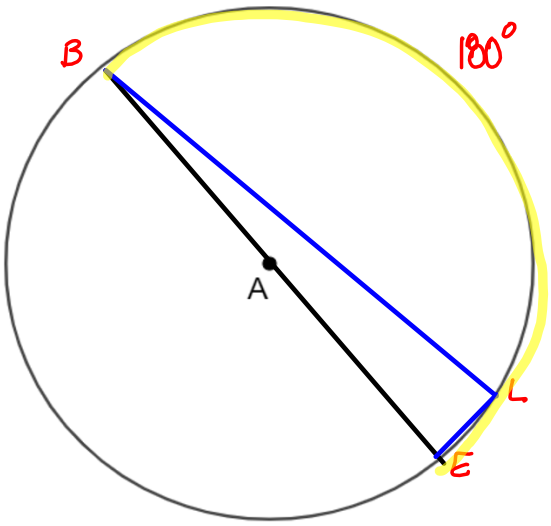


$\theta = 35^\circ$ $\theta = \frac{100^\circ}{2} = 50^\circ$

$\alpha = 50^\circ$

Hint: Use a highlighter to mark the intercepted arc.

G7.1.Investigation 3 ***Semi Circles***



Instructions:

1. Draw a diameter $\overline{BE}$
2. Draw point L on the edge of the circle.
3. Draw ∠BLE
4. Using a protractor measure your angle.
5. Determine the measure of $\overset{\frown}{BLE}$

m∠BLE=	m$\overset{\frown}{BLE}$=
90°	180°

What do you notice about the the measure of the angle and the measure of the arc?

Property #3:

Angles inscribed in a semicircle are right angles.

(See property #1)