

Mr. Northcutt's Math Classes Class Presentation

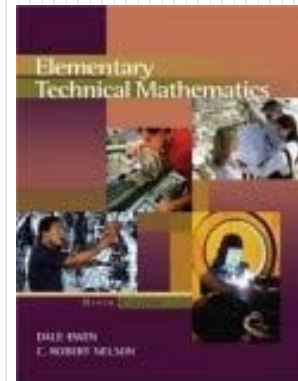
January 8, 2009 (78)



Math 1



Math 2



Applied Math



Math 1 – Daily Summary

- **Announcements**
 - Quiz on Sections 9-1 thru 9-4 on **MONDAY!**
- **Class Objectives – *What Should You Learn?***
 - More Practice Multiplying Polynomials
 - Square a Binomial
 - Difference of Squares
- **Assignment**
 - **Section 9-4: 1-8, 15-20, 28-38 EVEN, 44-52 EVEN**

Refresher – Factoring Polynomials



- **Factor any common factors from polynomials.**

$$14b^2c^2 + 7bc - 21bc^2$$

$$8x^3 - 6x^2 - 4x$$

Refresher – Multiplying Polynomials



- **Multiply the following binomials.**

$$(r + 2)(r + 2)$$

$$(2x - 1)(2x + 1)$$

Refresher – Multiplying Polynomials



- **Multiply the following polynomials...**

$$(a - 3)(a^2 - 2a + 1)$$

$$(y^2 - y - 1)(3y^2 + 2)$$

Special Binomials



$$(x + 1)^2$$

$$(x - 1)^2$$

$$(x + 3)(x - 3)$$

$$(a + b)(a - b)$$

Math 2 – Daily Summary



- **Announcements**

Compass & Protractor

- **Quiz on Lessons 7.1-3 Tomorrow!**

- **Class Objectives – *What Should You Learn?***

- **More About Arcs and Angles**

- Understand relationship b/w an inscribed angle and its intercepted arc (**Inscribed Angle Conjecture**)
- Understand PROOF of the Inscribed Angle Conjecture
- Use Inscribed Angle Conjecture to PROVE other conjectures about intercepted arcs (semicircles, inscribed quadrilaterals and arcs intercepted by parallel lines)

- **Assignment**

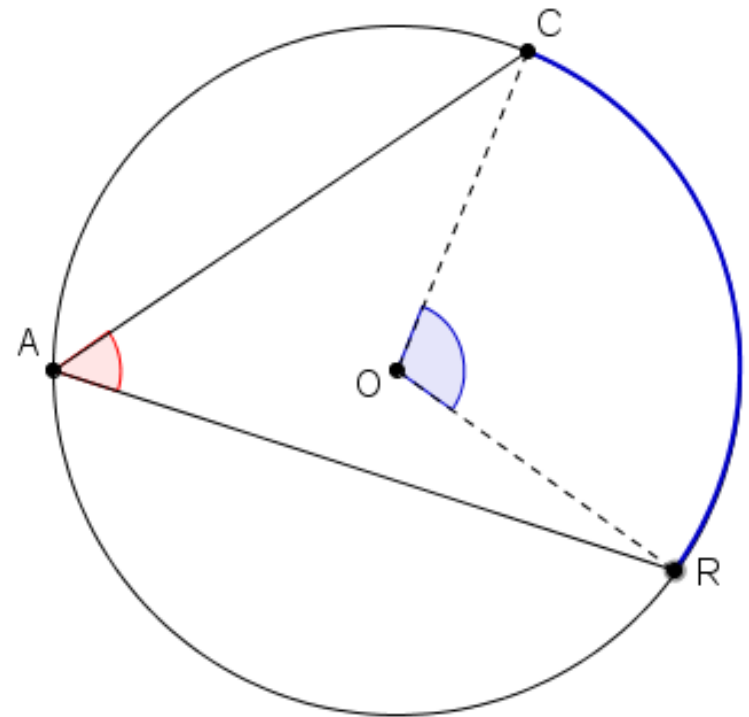
- **Lesson 7.4: 1-17**



Investigation – Inscribed Angle

- **Complete the following investigation...**

1. Draw a circle with center O .
2. Draw the inscribed angle CAR in the circle O .
3. Measure angle A in the inscribed angle.
4. Measure arc CR (the central angle O).



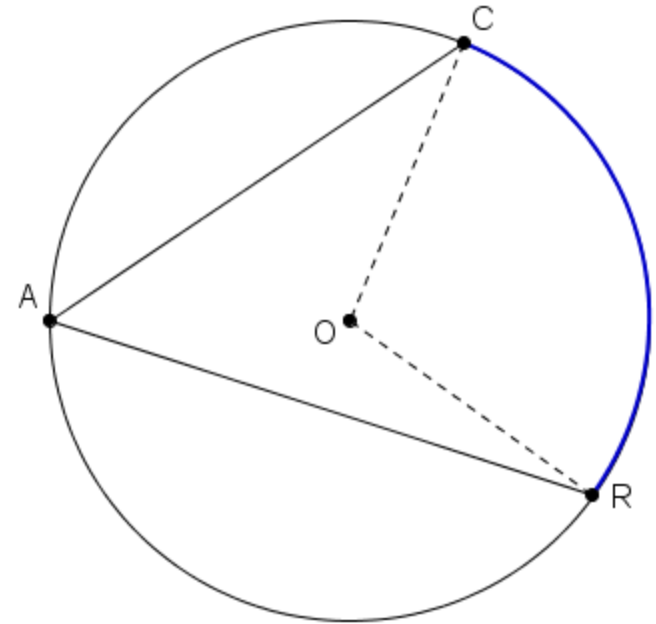
Is there a relationship between the measure of the inscribed angle A and the measure of the intercepted arc CR ?

Proof – Inscribed Angle Conjecture



- **One approach...**

1. Draw segment CR.
2. Draw radius AO.
3. Examine the 3 triangles within the larger triangle...*what is special about them?*
4. What has to be true about all of the angles in triangle CAR?
5. What has to be true about the angles in triangle COR?
6. Now use a little of your algebra skills...

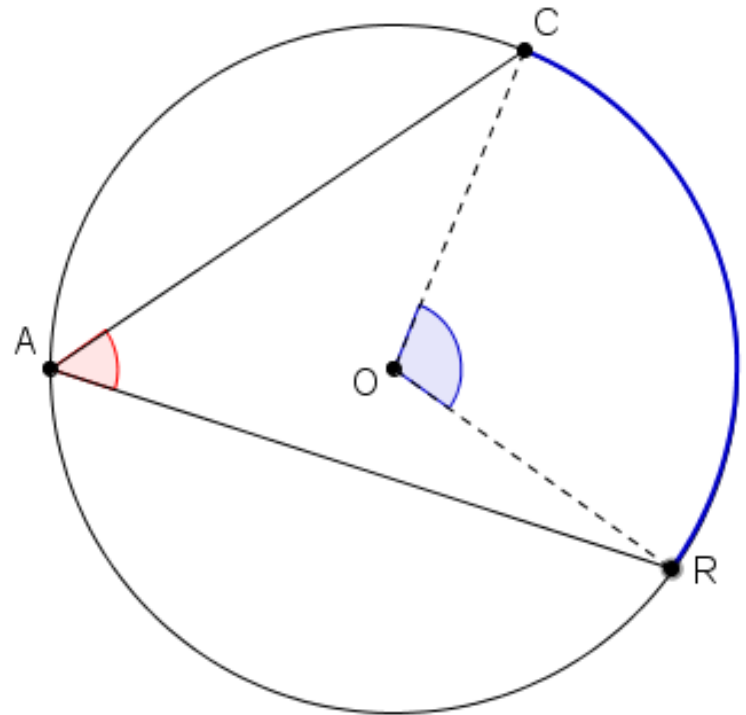




Inscribed Angle Conjecture

- **Inscribed Angle Conjecture**
 - The measure of an inscribed angle in a circle is half ($1/2$) the measure of its intercepted arc.

$$m\angle A = \frac{1}{2} m\widehat{ABC}$$

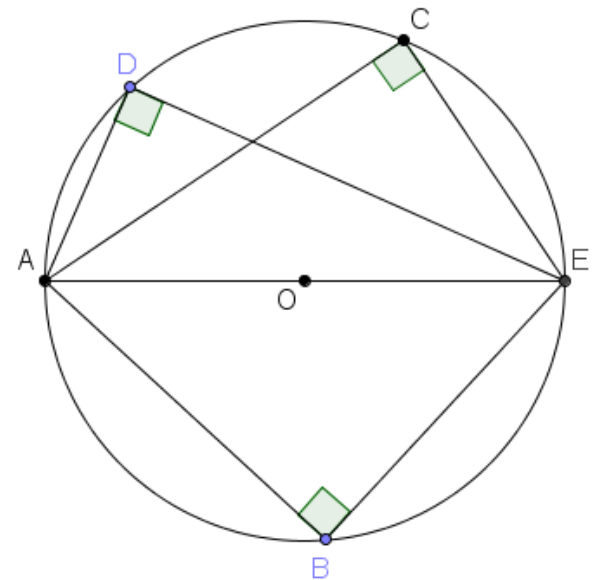
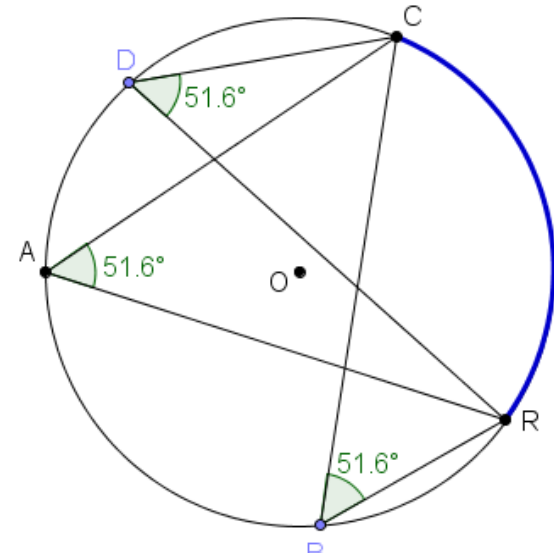




Conjectures that Follow Easily...

- **Inscribed Angles that Intercept the Same Arc**
 - Inscribed Angles that intercept the same arc are congruent.

- **Inscribed Angles in a Semicircle**
 - Angles inscribed in a semicircle are 90° (right angles)



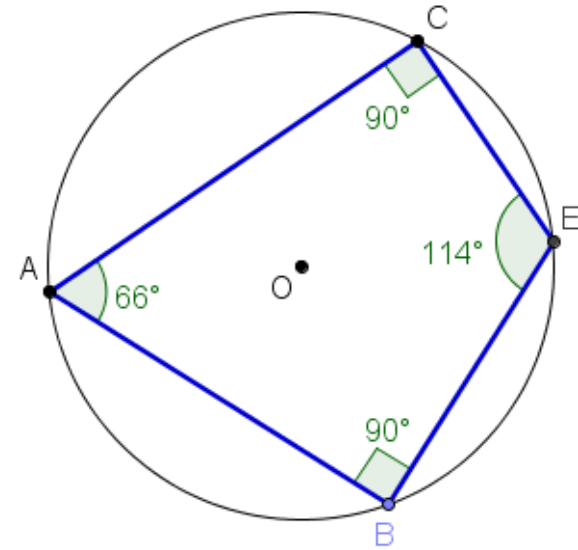
Why are these true? Can you prove it?



Conjectures that Follow Easily...

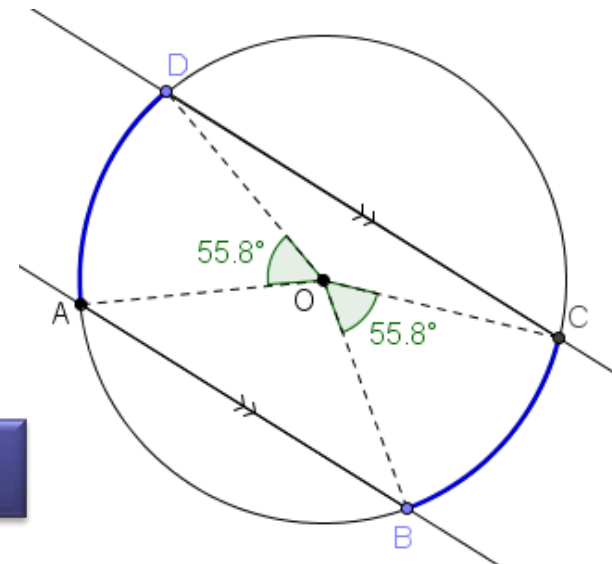
- **Inscribed Quadrilateral**

- The opposite angles of a quadrilateral inscribed in a circle are supplementary.



- **Parallel Lines**

- Parallel lines intercept congruent arcs in a circle.



Why are these true? Can you prove it?



Applied Math – Daily Summary

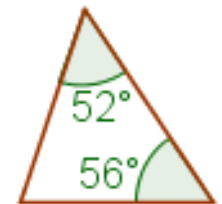
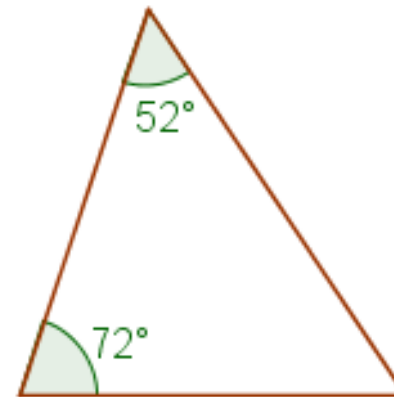
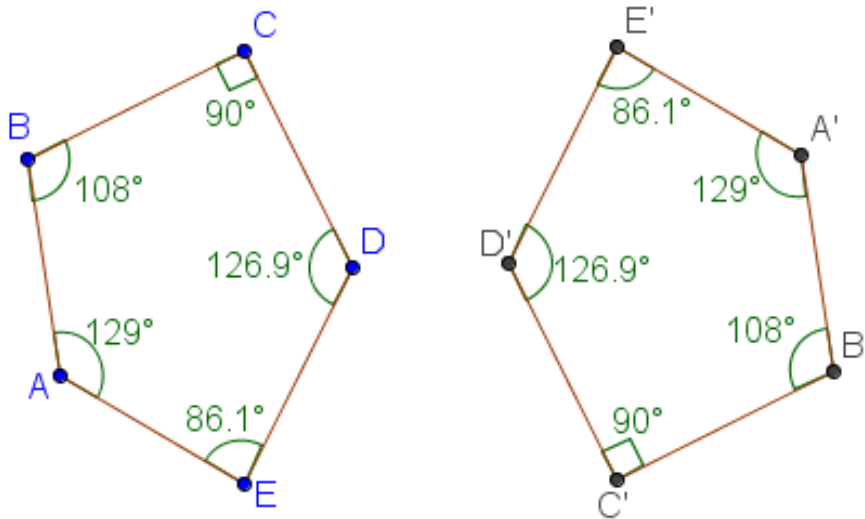
- **Announcements**
 - **Quiz on Sections 12.1 thru 12.4 Tomorrow**
- **Class Objectives – *What Should You Learn?***
 - **Similar Polygons**
 - Definition of Similar Polygons
 - Using Proportions with Similar Polygons
- **Assignment**
 - **Section 12.4: 2-20 EVEN**



Definition of Similar Polygons

- Polygons with the “same shape” are called similar.
- Polygons are similar when:

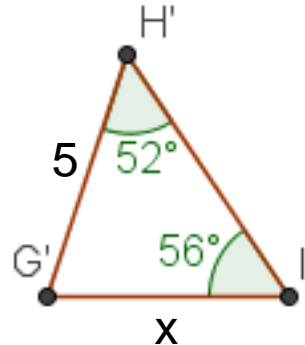
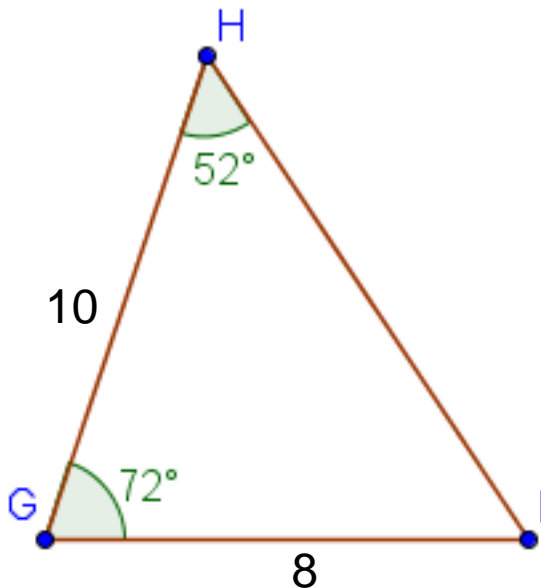
Corresponding Angles
are Equal.





So What?

- If two polygons are similar, then Corresponding Sides are Proportional.



$$\frac{HG}{H'G'} = \frac{GI}{G'I'} = \frac{HI}{H'I'}$$

$$\frac{10}{5} \neq \frac{8}{x}$$

Cross Multiply

$$10x = 40$$

$$x = 4$$



Example 2

- Find BC and AB.

Are these triangles similar? Why?

