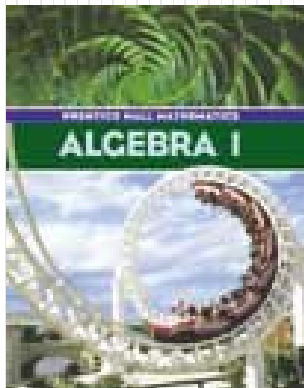
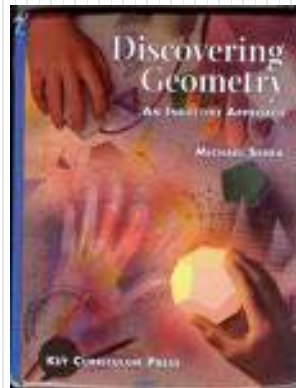


Mr. Northcutt's Math Classes Class Presentation

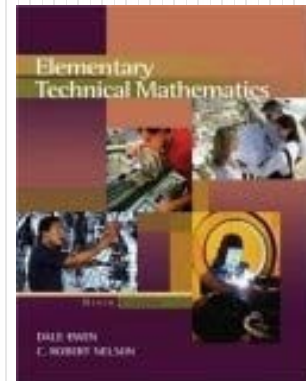
January 7, 2009 (77)



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?**
 - Multiplying Polynomials
- **Assignment**
 - Section 9-3: 2-40 EVEN

Get a Whiteboard!

Review – Add/Subtract Polynomials



- **Perform indicated operation (+/-).**

$$(2x^2 - 3x + 4) + (3x^2 - 2)$$

$$(x^3 + 3x^2 + 4) - (3x^2 - 2)$$

Refresher – Monomial Multiplication



- **Perform the multiplication.**

$$4b(b^2 - 2b + 3)$$

$$2x^2(x^2 - 3x + 2)$$

Refresher – Monomial Factoring



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

$$6bc^2 + 3b^2c - 9bc$$

$$8x^3 - 12x^2 - 4x - 4$$



Multiplying Polynomials

- Works a lot like regular old numbers...

$$\begin{array}{r} 34 \\ \times 22 \\ \hline \end{array}$$

$$(2x + 3) \cdot (x + 4)$$



$$\begin{array}{r} (2x + 3) \\ \times (x + 4) \\ \hline 8x + 12 \end{array}$$

$$+ \frac{2x^2 + 3x}{\hline} \\ 2x^2 + 11x + 12$$



Multiplying Binomials

- This is just the distributive property at work again...

$$(2x + 3) \cdot (x + 4)$$

FOIL

First, Outside, Inside, Last

$$2x^2 + 8x + 3x + 12$$

$$2x^2 + 11x + 12$$

$$(2x + 3) \cdot (x + 4)$$



$$(2x + 3)$$

$$\times (x + 4)$$

$$8x + 12$$

$$2x^2 + 3x$$

$$2x^2 + 11x + 12$$

=



Practice

- Multiply the following binomials...choose a method.

$$(r + 6)(r - 4)$$

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



A Little More Challenging

- **How might you multiply the following...**

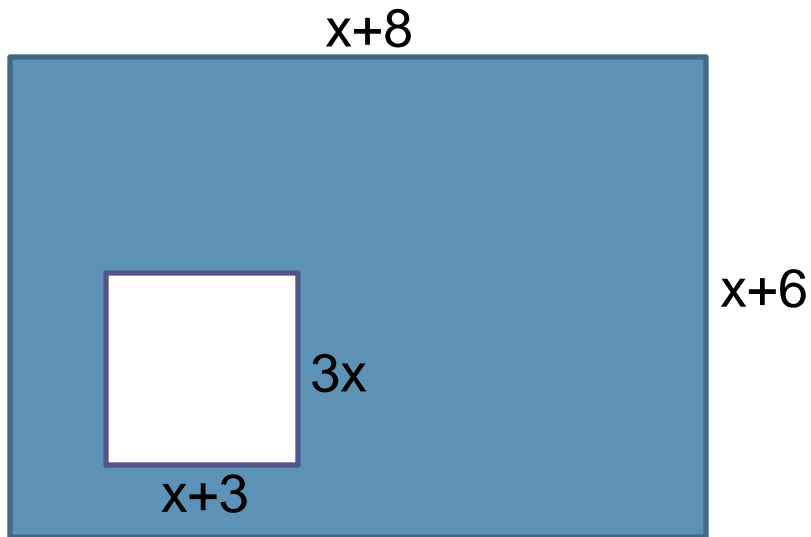
$$(a - 4)(a^2 - 2a + 1)$$

$$(y^2 - y - 1)(9y^2 + 2)$$



Applications

- Find the area of the shaded region.



What About This One?



$$(x + 1)^2$$

**Apply the definition of
a Power (Exponents)**



Math 2 – Daily Summary

- **Announcements**

- Quiz on Lessons 7.1-3 on Friday

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

- Tangent Circles – Internally and Externally Tangent
- Properties of Tangents

- **Assignment**

- Lesson 7.3: 1-6, 18, 20-21

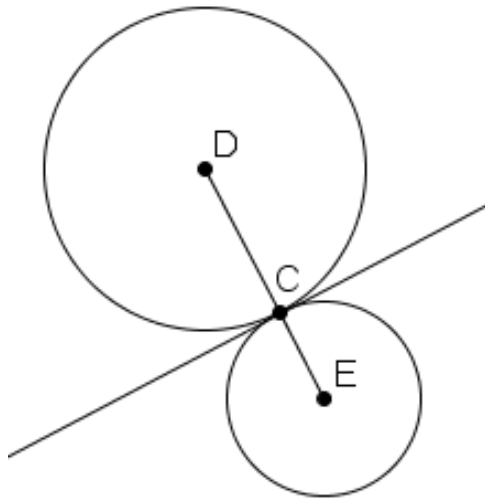
**Get a Protractor
Ruler, & Compass!**



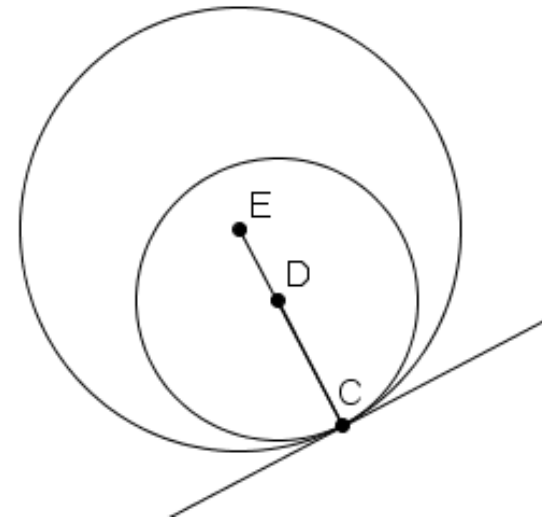
Tangent Circles

- **Tangent Circles**

- Two circles that are tangent to the same line at the same point (the same point of tangency).



EXTERNALLY Tangent Circles



INTERNALLY Tangent Circles

Investigation – Tangent

In your NOTEBOOK!



1. **Construct a large circle with Center P.**
2. **Draw a line that appears to touch Circle P at exactly one (1) point (a tangent line). Label the Point of Tangency T.**
3. **Construct the segment PT.**
4. **Use a protractor to measure the angles at the Point of Tangency T.**

What conjecture(s) can you make?



Investigation – Tangent Segments

1. **Construct a large circle with Center S.**
2. **Construct a point outside the circle and label it T.**
3. **Draw two lines through point T that are tangent to the circle S. Mark the Points of Tangency for the two lines and label them A and B.**
4. **Use your ruler to measure the lengths of the two segments TA and TB.**

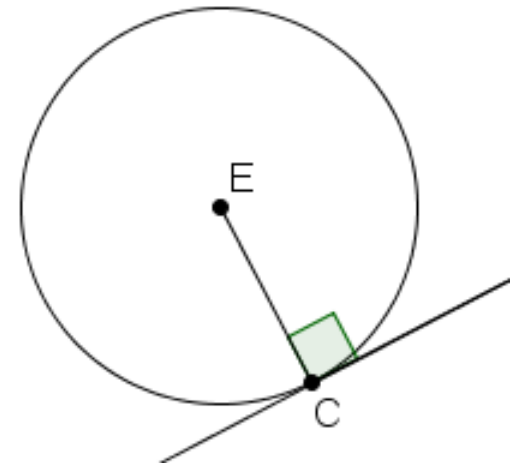
What conjecture(s) can you make?



Tangent Properties – Formal

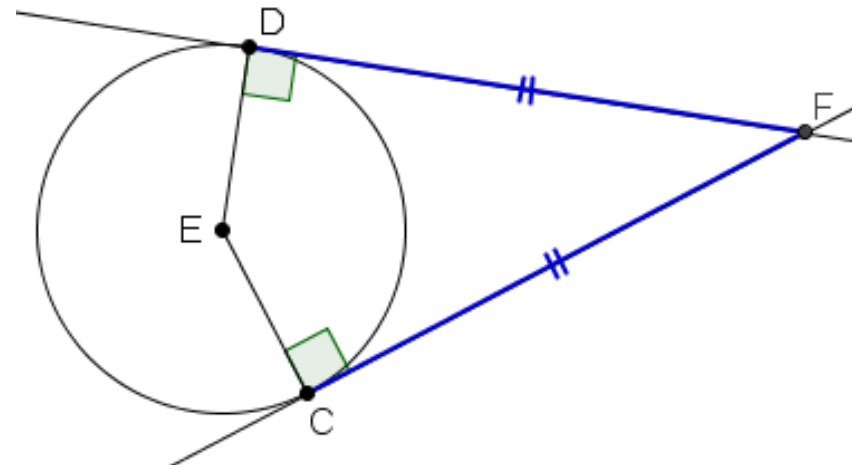
- **Tangency Conjecture**

- A tangent to a circle is perpendicular to the radius drawn to the point of tangency.



- **Tangent Segments Conjecture**

- Tangent segments to a circle from a point outside the circle are congruent.





Applied Math – Daily Summary

- **Announcements**

- **Quiz on Sections 12.1 thru 12.4 on Friday**

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

- **Properties of Triangles**
 - Classifying Triangles
 - by Side Length
 - by Interior Angle Measure
 - Using the Pythagorean Theorem
 - Calculating the Area of a Triangle
 - Sum of Interior Angles of a Triangle

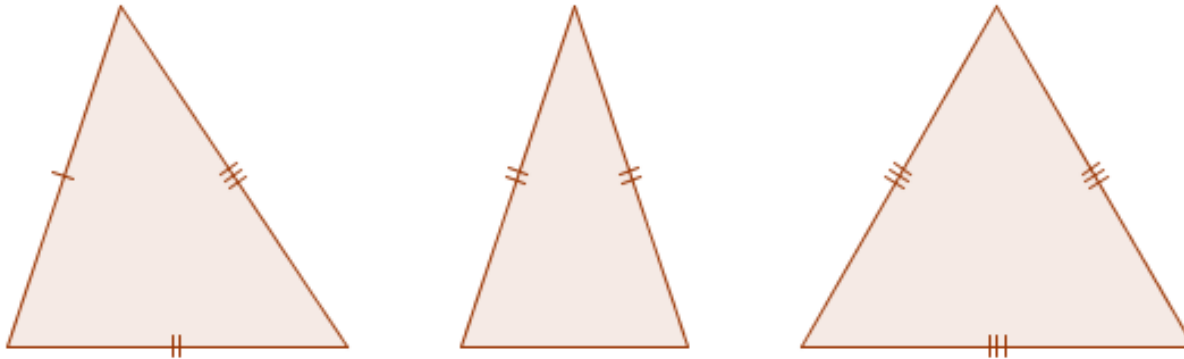
- **Assignment**

- **Section 12.3: 8, 10, 12, 18, 30, 32, 38, 44, 46, 48, 50**

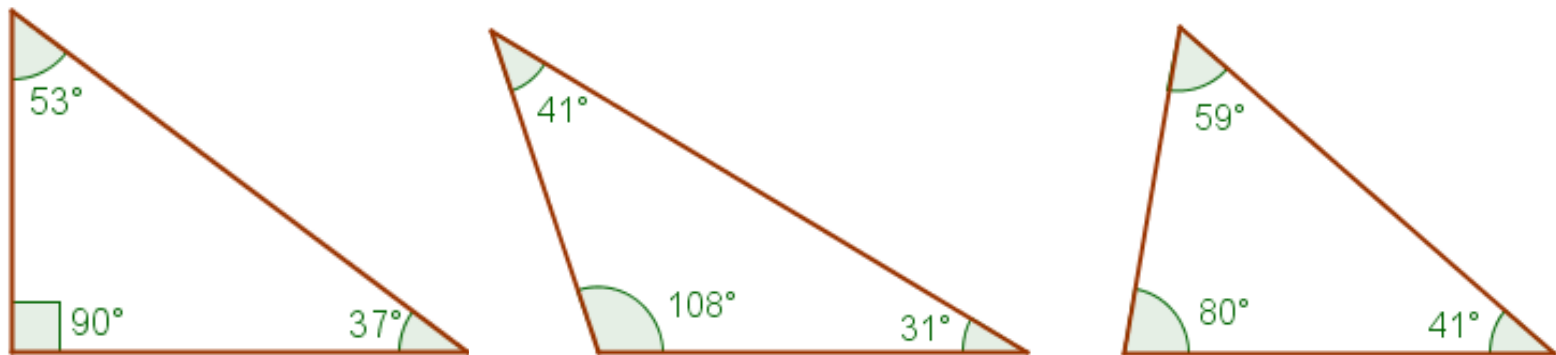


Classifying Triangles

- **By Side Length**



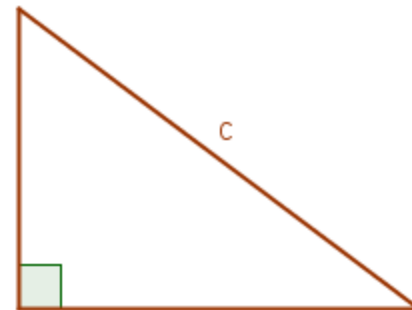
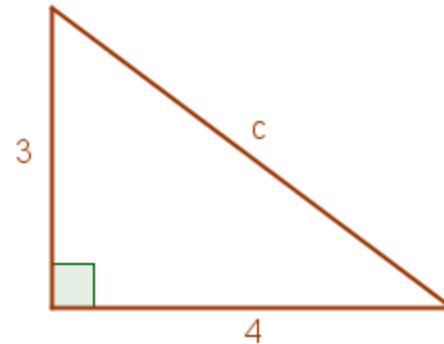
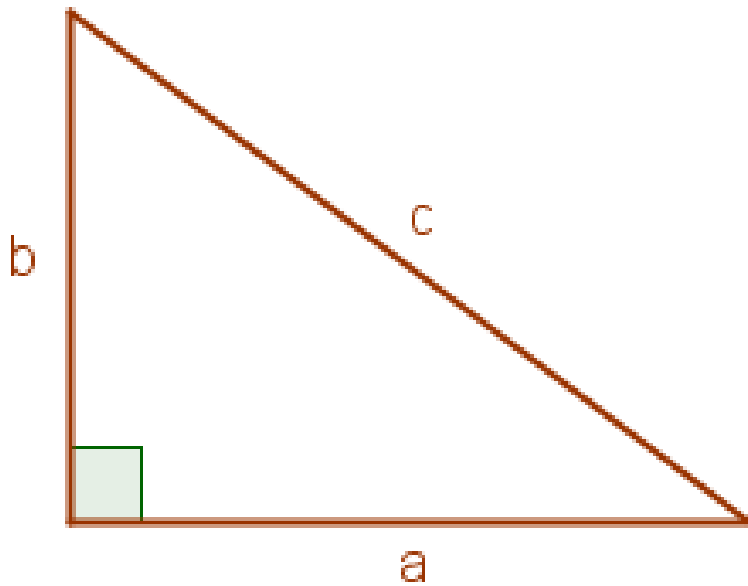
- **By Angle Measures**





Pythagorean Theorem

- For **RIGHT TRIANGLES**...

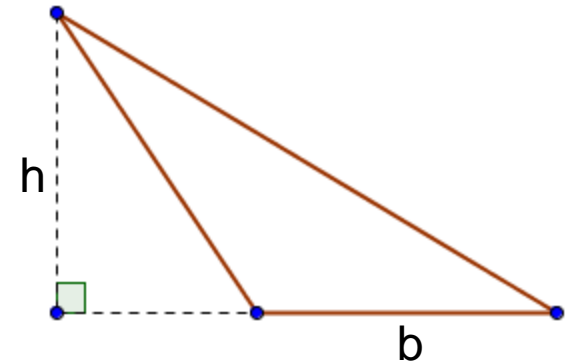
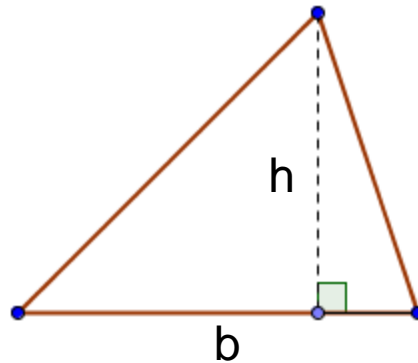




Area of Triangle

- Given **b** (base length) and **h** (corresponding **ALTITUDE** length):

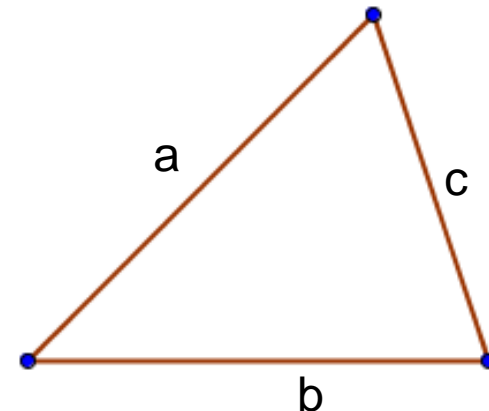
$$A = \frac{1}{2}bh$$



- If only lengths of three sides are known (**Heron's Formula**):

$$A = \sqrt{s(s - a)(s - b)(s - c)}$$

$$s = \frac{1}{2}(a + b + c)$$





Triangle Interior Angles

- The sum of the measures of the interior angles of **ANY TRIANGLE** is **180°** .

