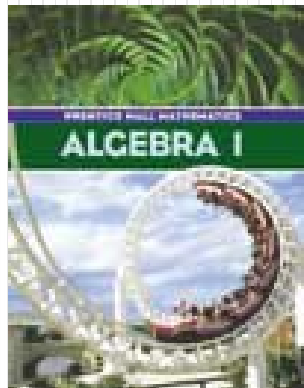
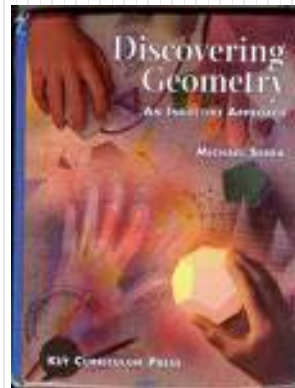


# Mr. Northcutt's Math Classes Class Presentation

May 6, 2009 (153)



Math 1



Math 2



Applied Math



# Math 1 – Daily Summary

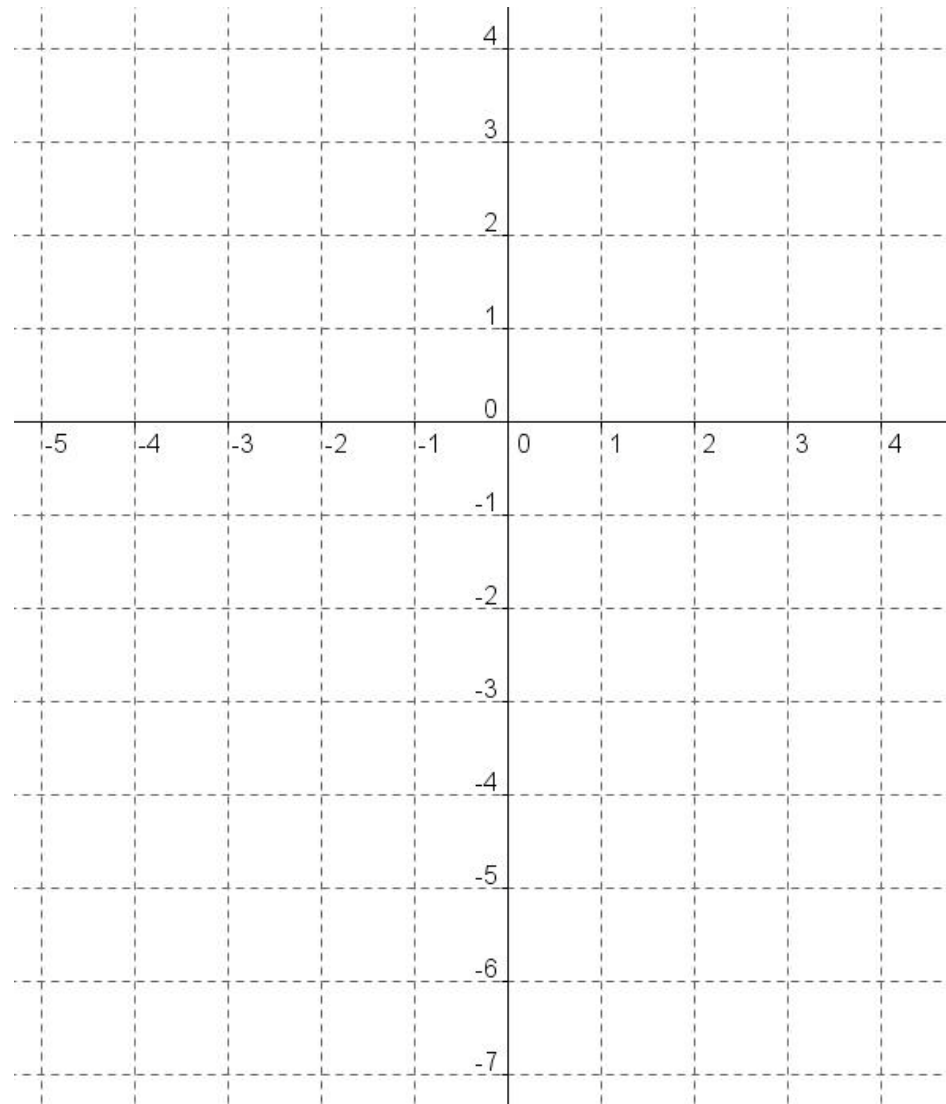
- **Announcements**
  - **QUIZ: Sections 10.1 thru 10.4 on MONDAY**
- **Class Objectives – What you should learn today?**
  - Solving Quadratic Equations by:
    - Graphing
    - Using Square Roots
- **Assignment**
  - **Worksheet: Solving Quadratic Equations using Square Root**



# Investigation

- Graph  $y = x^2 + 3x - 4$ .
  
- Which values of  $x$  have a  $y$  value equal to 0?
  - When does  $y(x) = 0$ ?

$y(x) =$  “ $y$  is a function of  $x$ .”





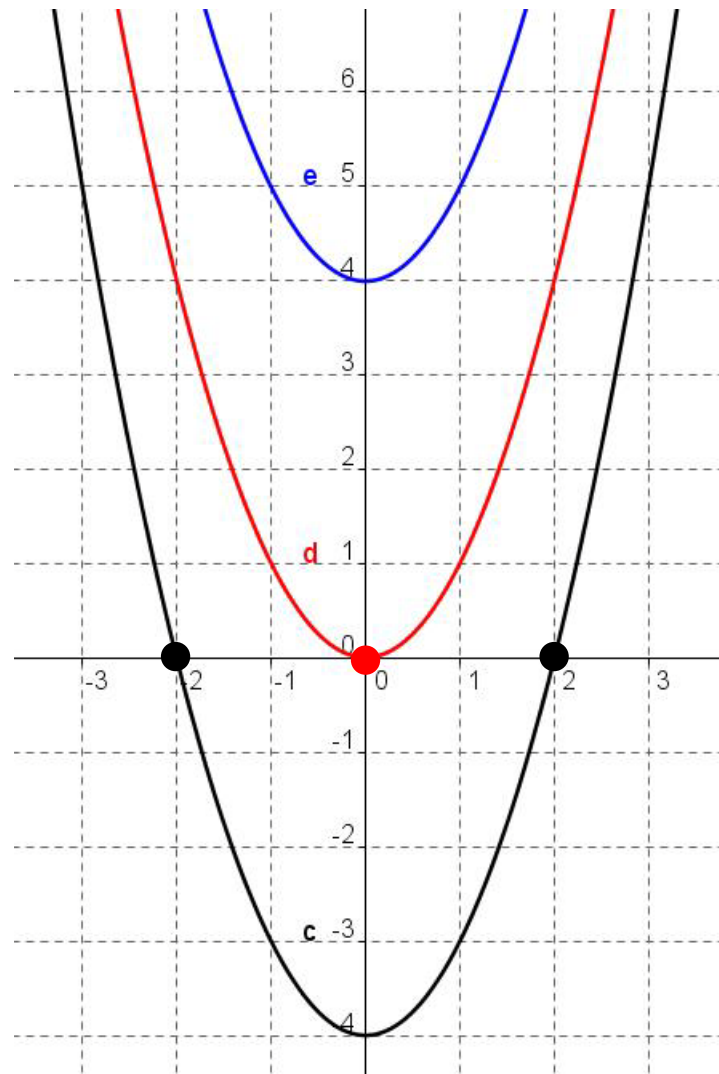
# Options for x-intercepts?

- What are the three x-intercept options?

$$y = x^2 - 4$$

$$y = x^2$$

$$y = x^2 + 4$$



# Solutions to Quadratic Equations



- Same process as other equations - but use Square Root!

$$x^2 - 9 = 0$$

$$3x^2 - 40 = 8$$

$$x^2 - 8 = 4$$

$$x^2 + 25 = 0$$



# Math 2 – Daily Summary

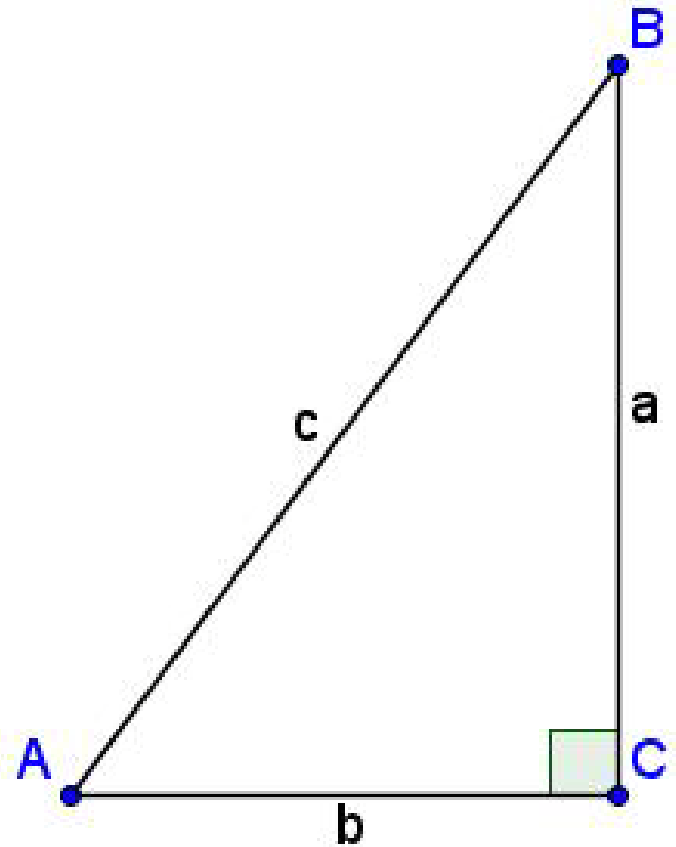
- **Announcements**
  - **TEST on Chapter 13 - Trigonometry on MONDAY (next week)**
- **Class Objectives – What you should learn today?**
  - Pythagorean Identity
  - Understand and Apply the Law of Cosines
- **Assignment**
  - **Lesson 13.4: 1-13**



# Proof of Pythagorean Identity

- **Steps to Prove Pythagorean Identity**

1. Find  $\sin A$  and  $\cos A$
2. Find  $\sin^2 A$  and  $\cos^2 A$
3. Find  $\sin^2 A + \cos^2 A$





# Pythagorean Identity

- **Pythagorean Identity**
  - For any angle A:

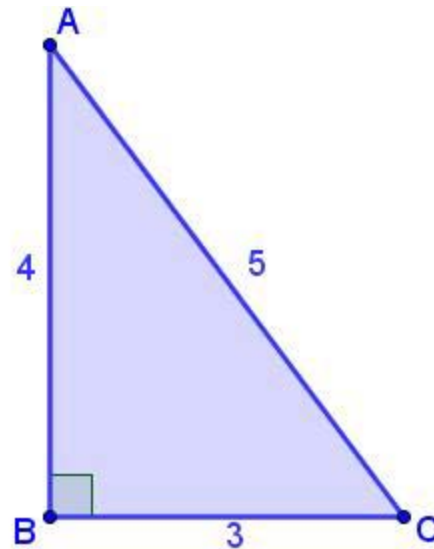
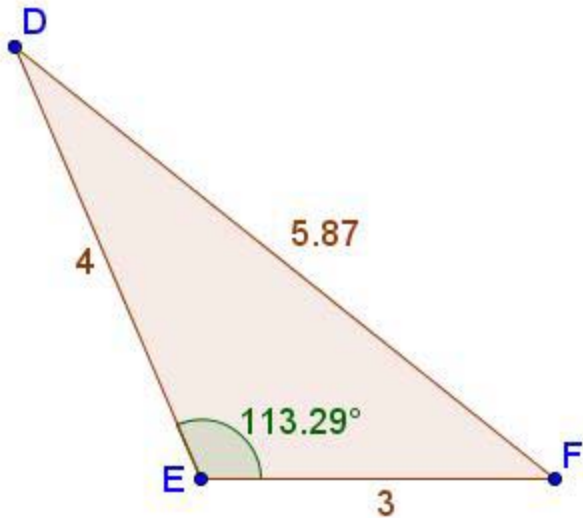
$$\sin^2 A + \cos^2 A = 1$$



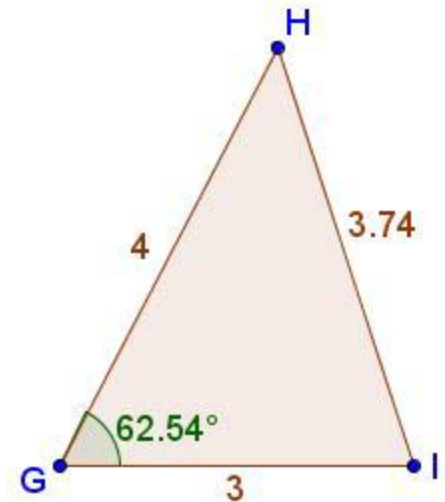


# Variations on a Theme

- What happens to the Pythagorean Theorem?



$$a^2 + b^2 = c^2$$

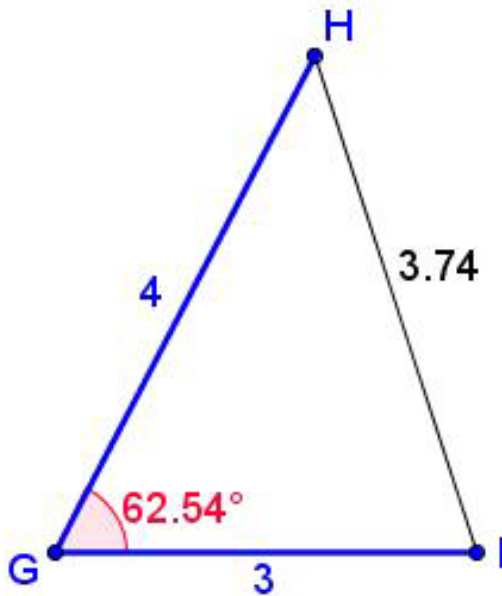




# Law of Cosines

- **Law of Cosines (“Generalized Pythagorean Theorem”)**
  - For ANY TRIANGLE with sides  $a$ ,  $b$ , and  $c$ , and with  $C$  the angle opposite the side with length  $c$ :

$$c^2 = a^2 + b^2 - 2ab \cdot \cos C$$

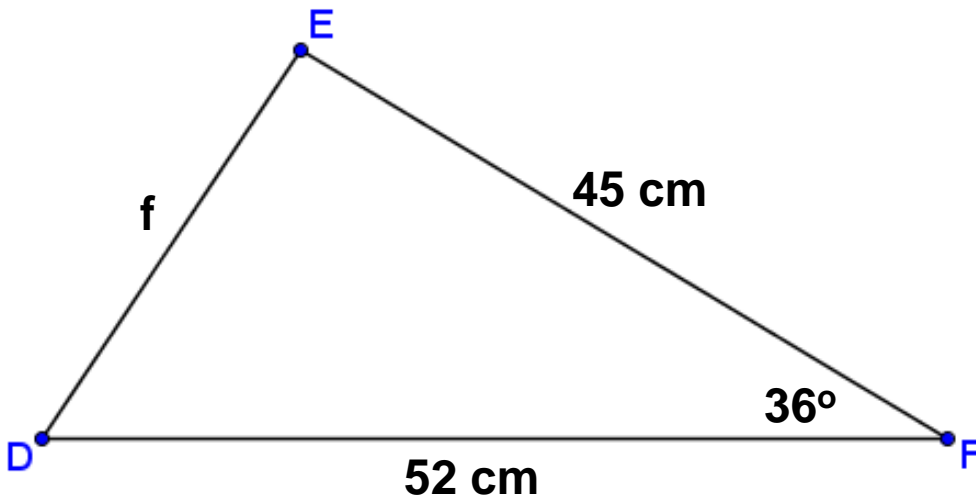


What if  $C$  is a Right Angle?



# Example - Law of Cosines

- Find the length of  $f$ .



# Applied Math – Daily Summary



- **Announcements**

- Will begin Quadratic Equations on Tuesday...Algebra Review until then.

- **Class Objectives – What you should learn today?**

- Algebra Review: Solving Equations

- **Assignment**

- **Worksheet:** Solving Equations