

# Mr. Northcutt's Math Classes Class Presentation

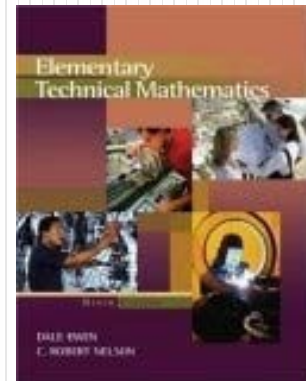
March 6, 2009 (115)



Math 1



Math 2



Applied Math



# Math 1 – Daily Summary

- **Announcements**
  - None
- **Class Objectives – What you should learn today!**
  - **QUIZ:** Equations of Lines (thru 6.5)
- **Assignment**
  - NO HW



# Math 2 – Daily Summary

- **Announcements**

- Two days of Trigonometry - Prior to CRT on Tuesday

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

- Definition of Trigonometric Ratios
- Ability to Calculate Trigonometric Ratios given side length.

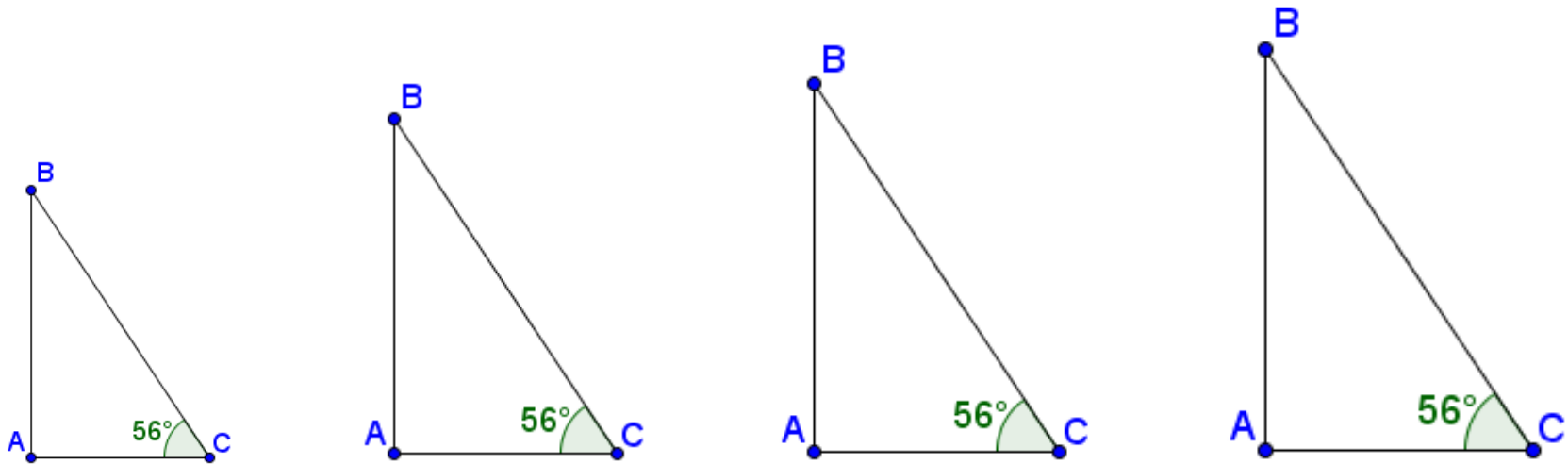
- **Assignment**

- **Lesson 13.1: 1-8**



# Similar Triangles

- **Recall...Special Right Triangles ( $45^\circ$ - $45^\circ$  and  $30^\circ$ - $60^\circ$ )**
  - Once we knew dimensions of one (the “model”) we knew the dimensions of ANY similar triangle (scaled sides)
- **Would this be true for ANY right triangle?**



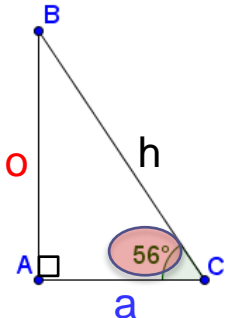
# So Let's Keep Going...

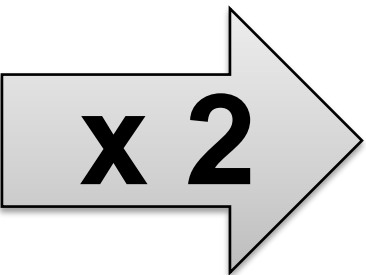
**Do Activity Now!**

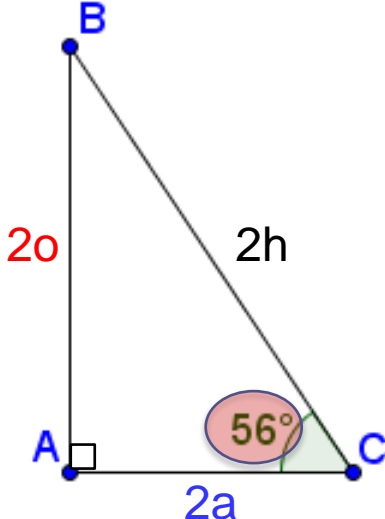


- Let's Look at Ratios of Side Lengths (3 pairings).

$\frac{o}{h}$	=		=	$\frac{2o}{2h}$	=	$\frac{o}{h}$
$\frac{a}{h}$	=		=	$\frac{2a}{2h}$	=	$\frac{a}{h}$
$\frac{o}{a}$	=		=	$\frac{2o}{2a}$	=	$\frac{o}{a}$







- Each angle has **UNIQUE SET OF RATIOS**...this makes every triangle a multiple of a **SPECIAL RIGHT TRIANGLE**.

# Trigonometric Ratios (Right Triangles)



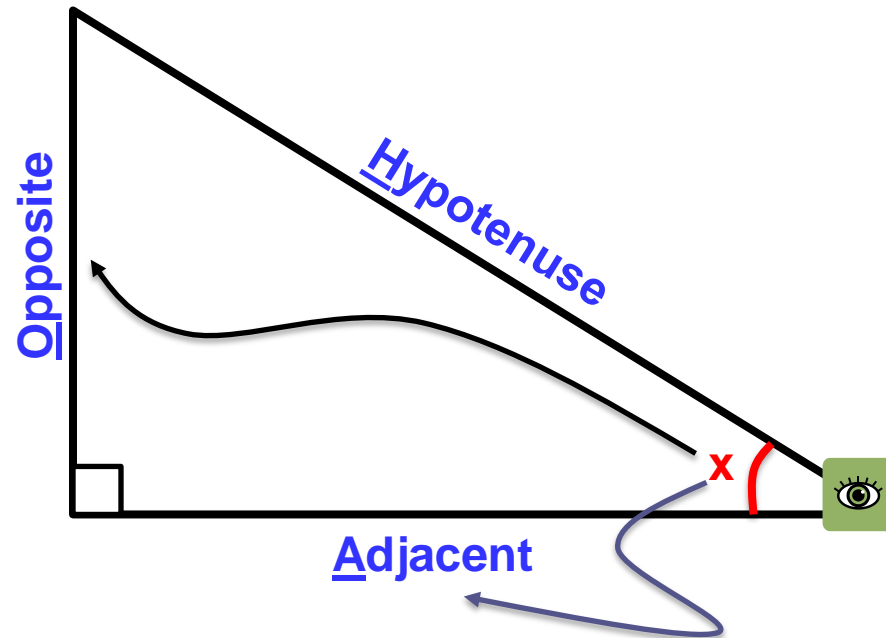
- Sine, Cosine & Tangent of an angle.

$$\sin \angle x = \frac{\textit{Opposite}}{\textit{Hypotenuse}}$$

$$\cos \angle x = \frac{\textit{Adjacent}}{\textit{Hypotenuse}}$$

$$\tan \angle x = \frac{\textit{Opposite}}{\textit{Adjacent}}$$

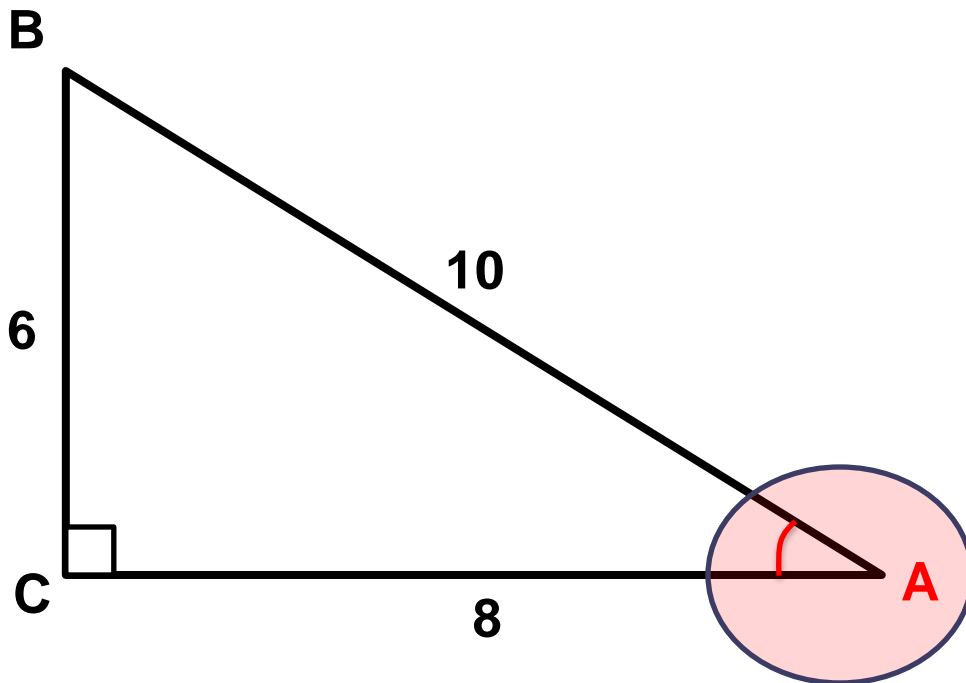
**S**  
**O**  
**H**  
**-**  
**C**  
**A**  
**H**  
**-**  
**T**  
**O**  
**A**



# Examples



- Find  $\sin \angle A$ ,  $\cos \angle A$ ,  $\tan \angle A$



$$\sin A = \underline{\hspace{2cm}}$$

$$\cos A = \underline{\hspace{2cm}}$$

$$\tan A = \underline{\hspace{2cm}}$$

S  
O  
H  
-  
C  
A  
H  
-  
T  
O  
A



# Using Calculator for Trig. Functions

- Verify in **DEGREES** mode!
- Find the following:

$$\sin 60^\circ = \underline{\hspace{2cm}}$$

$$\cos 45^\circ = \underline{\hspace{2cm}}$$

$$\tan 30^\circ = \underline{\hspace{2cm}}$$

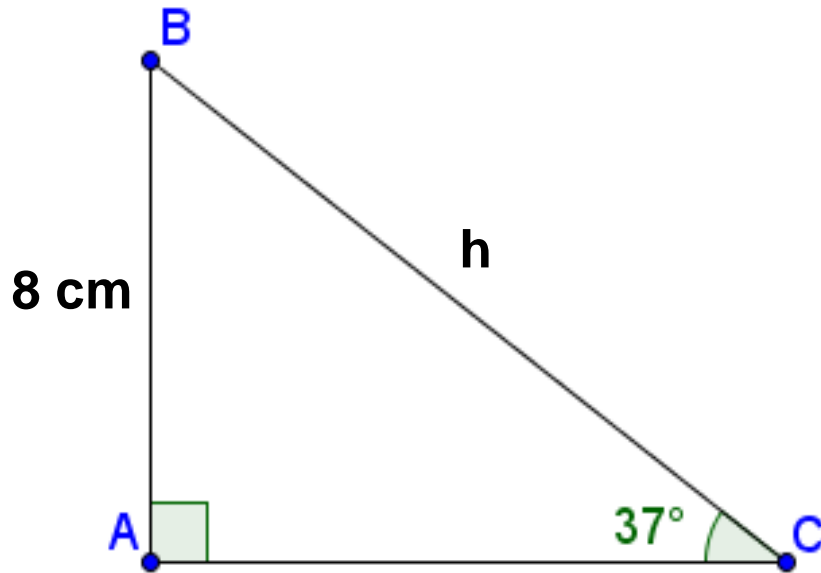




# How Would You Apply This?

- Find the length of the Hypotenuse.

**NOTE:** Pythagorean Theorem does not help with only one side!





# Applied Math – Daily Summary

- **Announcements**

- None

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

- Project Brainstorming, Research and Definition.
- Project Criteria:
  - Related to Trigonometry
  - Educationally “Appropriate”
  - Duration 2-4 Days
  - Able to Execute (materials, weather, etc.)
  - Fun...a little anyway.

- **Assignment**

- Finalize Project - Hand-In Description on Monday!