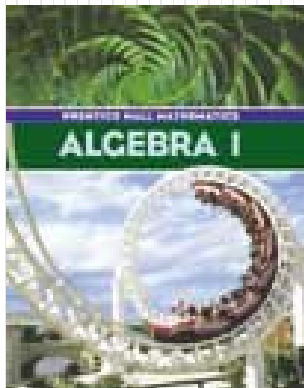
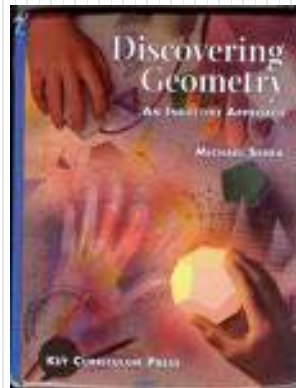


Mr. Northcutt's Math Classes Class Presentation

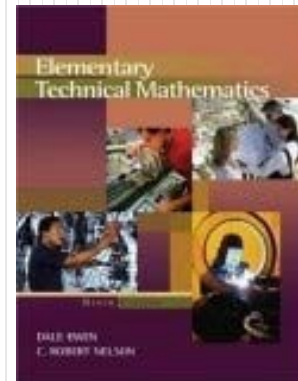
May 5, 2009 (152)



Math 1



Math 2



Applied Math



Math 1 – Daily Summary

- **Announcements**
 - **TEST: Sections 10.1 thru 10.4 on MONDAY (next week)**
- **Class Objectives – What you should learn today?**
 - How to Find and Estimate Square Roots
- **Assignment**
 - **Worksheet: Square Roots**



Squares & Square Roots

- What you already know...
 $(4)^2 = 16$
 $(-4)^2 = 16$

- The “Square Roots” of 16 are: **4** and **-4**

★ Every positive number has two square root.

- **DEFINITION: Square Root**

- The number **a** is a square root of **b** if $a^2 = b$.

- Examples:

$$(3)^2 = 9$$

$$(8)^2 = 64$$

$$(12)^2 = 144$$

$$(-3)^2 = 9$$

$$(-8)^2 = 64$$

$$(-12)^2 = 144$$

**8 and -8 are
the square
roots of 64.**



Square Root Terms & Symbols

- **We will use some new symbols and terms...**

$\sqrt{\quad}$ = The “Radical Symbol”

$\sqrt{9}$ = Positive or Principal Square Root of 9 = +3

$-\sqrt{9}$ = Negative Square Root = -3

$\pm\sqrt{9}$ = Both Square Roots = ± 3



Examples

- **Simplify each expression (based on previous slide):**

$$\sqrt{64} = \underline{\hspace{2cm}}$$

$$-\sqrt{0.36} = \underline{\hspace{2cm}}$$

$$\pm\sqrt{\frac{9}{16}} = \underline{\hspace{2cm}}$$

$$\pm\sqrt{0} = \underline{\hspace{2cm}}$$

$$\sqrt{-16} = \underline{\hspace{2cm}}$$



Rational & Irrational Square Roots

- **Rational** = Terminate or Repeats
- **Irrational** = Continues without Repeating (**Majority!!!**)
- Are the following Rational or Irrational:

$$\pm\sqrt{81} = \pm 9$$

$$-\sqrt{1.44} = -1.2$$

$$-\sqrt{5} \approx -2.23606\dots$$

$$\sqrt{\frac{1}{3}} \approx 0.57735\dots$$



Perfect Squares and Estimating

★ Perfect Squares = Squares of Integers

Integer	1	2	3	4	5	6
Perfect Square	1	4	9	16	25	36

- You can Estimate a Square Root using Perfect Squares

$$\sqrt{9} < \sqrt{13} < \sqrt{16}$$

$$3 < \sqrt{13} < 4$$

The square root of 13
is between 3 and 4.



Using a Calculator to Estimate

- Any Square Root you find that is Irrational will be an **ESTIMATE!**

Get a Calculator!

- Use calculator for estimate $\sqrt{14.5}$ to nearest 100th.

$$\begin{aligned}\sqrt{14.5} &\approx 3.807886 \\ &\approx 3.81\end{aligned}$$



Math 2 – Daily Summary

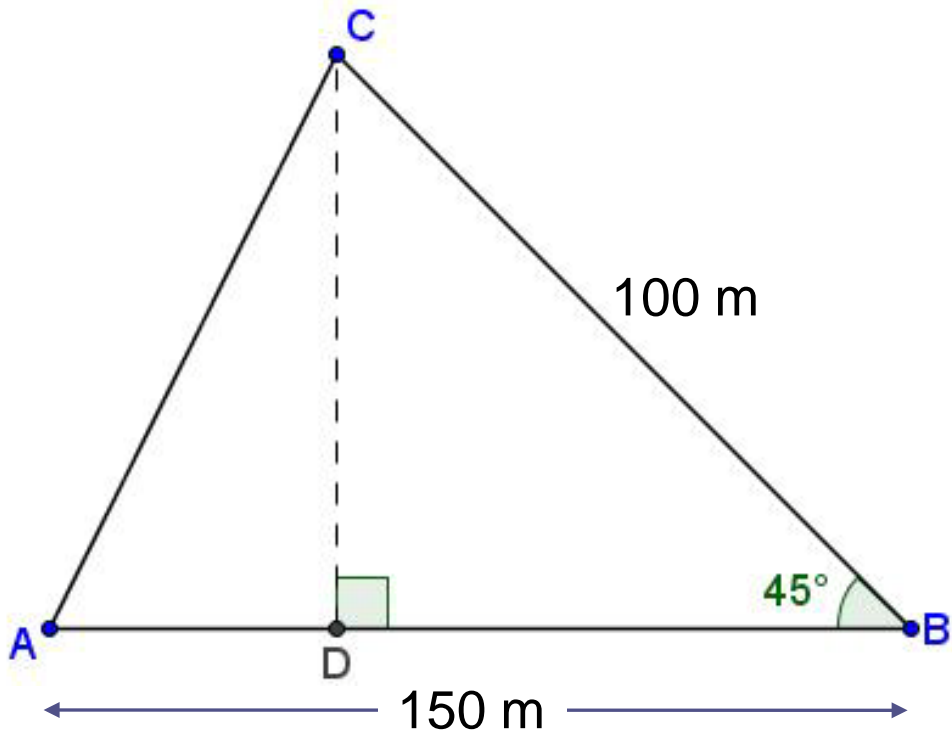
- **Announcements**
 - **TEST on Chapter 13 - Trigonometry on MONDAY (next week)**
- **Class Objectives – What you should learn today?**
 - Area of a Triangle (alternative method)
 - Understand and Apply the Law of Sines
- **Assignment**
 - **Lesson 13.3: 1-3, 5-13**



Area of a Triangle

- Find the area of the Triangle.

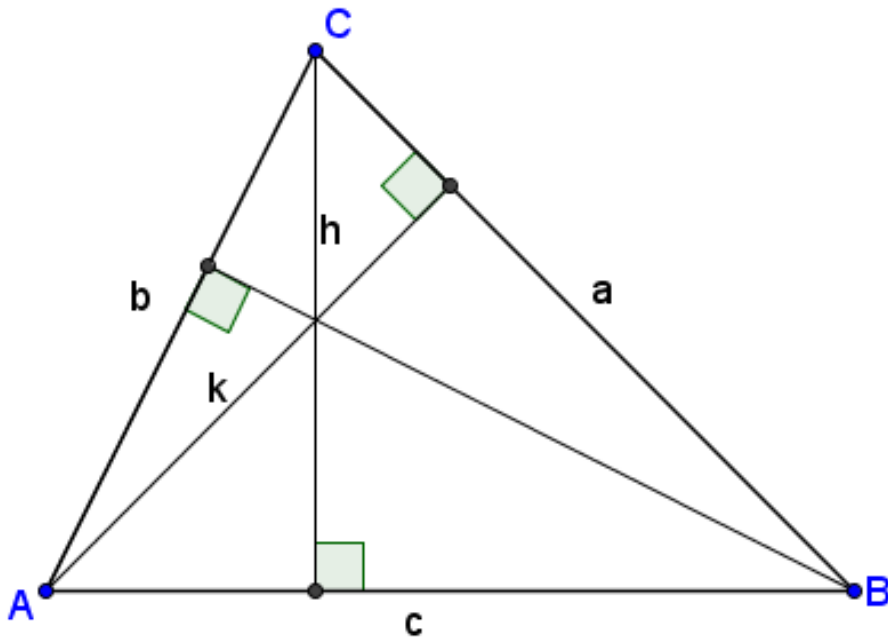
Can you use Trigonometry?





Proving the Law of Sines (Part 1)

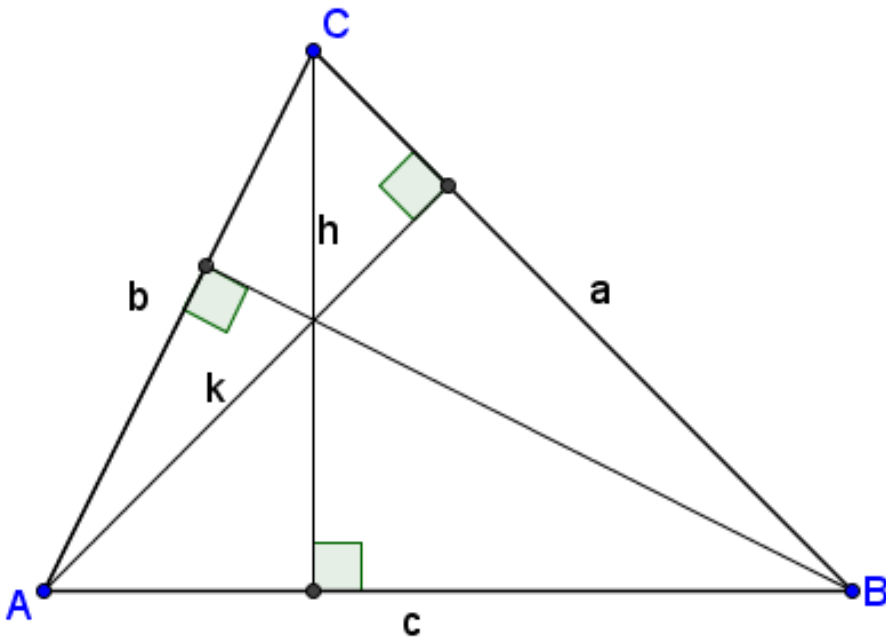
1. Find h in terms of a and the sine of an angle.
2. Find h in terms of b and the sine of an angle.
3. Show:
$$\frac{\sin A}{a} = \frac{\sin B}{b}$$





Proving the Law of Sines (Part 2)

1. Find k in terms of c and the sine of an angle.
2. Find k in terms of b and the sine of an angle.
3. Show:
$$\frac{\sin A}{a} = \frac{\sin B}{b}$$

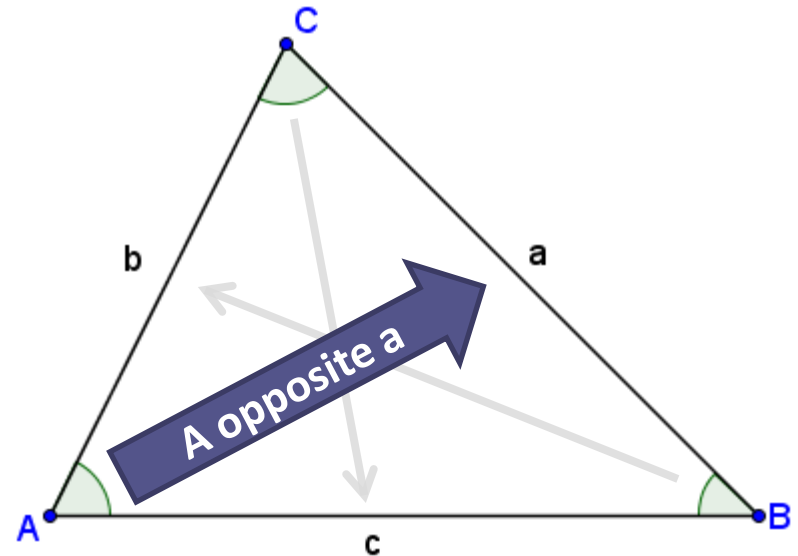




Law of Sines

- **Combining last two steps...gives LAW OF SINES**
 - For a triangle with angles of measure **A**, **B** and **C** and sides **a**, **b**, and **c** (**a** opposite **A**, **b** opposite **B**, and **c** opposite **C**):

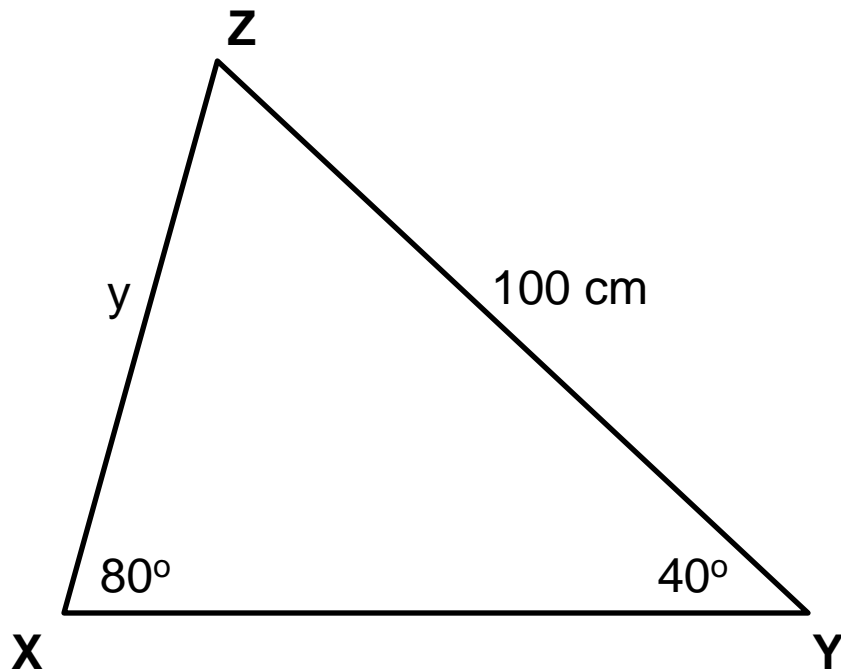
$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$





Example: Law of Sines

- Find y .



Applied Math – Daily Summary



- **Announcements**

- **Algebra Review starting tomorrow thru Monday**
 - Solving Equations
 - Polynomials

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

- Continue test on Charts and Data Analysis using MS EXCEL

- **Assignment**

- Finish Test (if not completed)