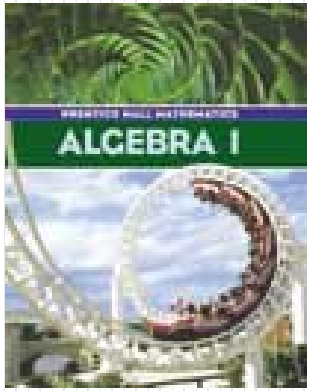
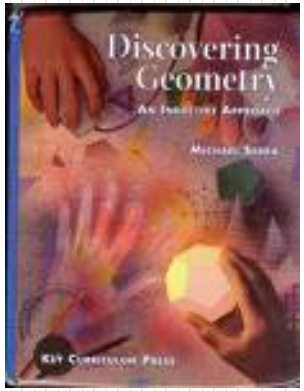
Mr. Northcutt's Math Classes
Class Presentation

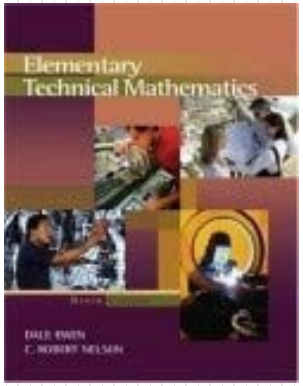
March 23, 2009 (126)



Math 1



Math 2



Applied Math

Math 1 – Daily Summary

- **Announcements**
  - Last Week of 3rd Quarter!
  - QUIZ: Sections 7.1 thru 7.3 on Thursday
- **Class Objectives – *What you should learn today!***
  - Solving Systems of Equations by Substitution
- **Assignment**
  - **Worksheet**: Solving by Substitution

System of Equations

- **A System of Linear Equations is two or more equations together…**

$$\left.\begin{aligned} y &= 2x - 3 \\ y &= x - 1 \end{aligned}\right\}$$

Equations of Lines (*Slope-Intercept Form*)

- **A Solution of the System is any ordered pair (x,y) that satisfies both equations at the same time.**

$(2,1)$ → **Solution** →

$$\begin{aligned} y &= 2x - 3 \\ y &= x - 1 \end{aligned}$$

Point → ***Point of Intersection*** → **Lines**

Solving by Substitution

- **Solve for y (or x) in one equation and "substitute" the solution into the other equation.**

$y = 3x - 12$

$y = 4x - 16$

SOLVE

$4x - 16 = 3x - 12$

$x - 16 = -12$

$x = 4$

$y = 4(4) - 16$

$y = 16 - 16$

$y = 0$

(4,0)

CHECK

$y = 3x - 12$

$0 = 3(4) - 12$

$0 = 12 - 12$

O.K.

$0 = 0$

$y = 4x - 16$

$0 = 4(4) - 16$

$0 = 16 - 16$

O.K.

$0 = 0$

Math 2 – Daily Summary

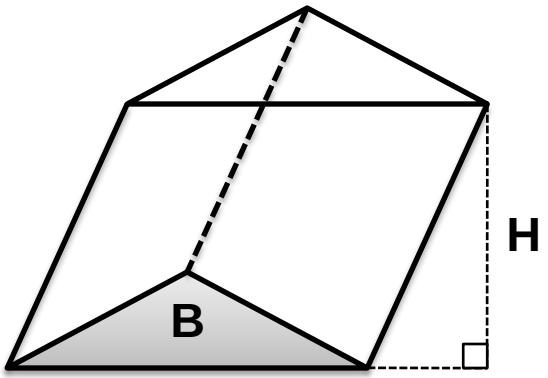
- **Announcements**
  - Last Week of 3rd Quarter.
  - QUIZ: Lesson 11.1 thru 11.5 (Volume) on Thursday.
- **Class Objectives – *What you should learn today!***
  - Calculate the Volume of Prisms and Cylinders
- **Assignment**
  - **Lesson 11.3:** 1-12, 18

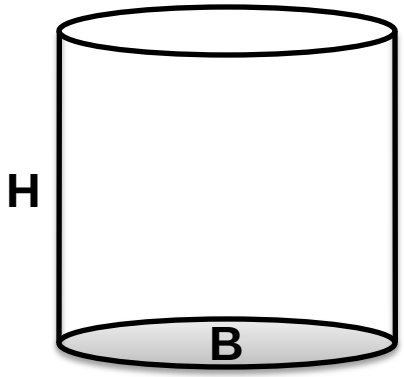
Prism-Cylinder Volume Conjecture

- **If B is the <u>area of the base</u> of a prism or cylinder and H is the <u>height</u> of the solid, then the formula for the volume is:**

$$V = B \cdot H$$

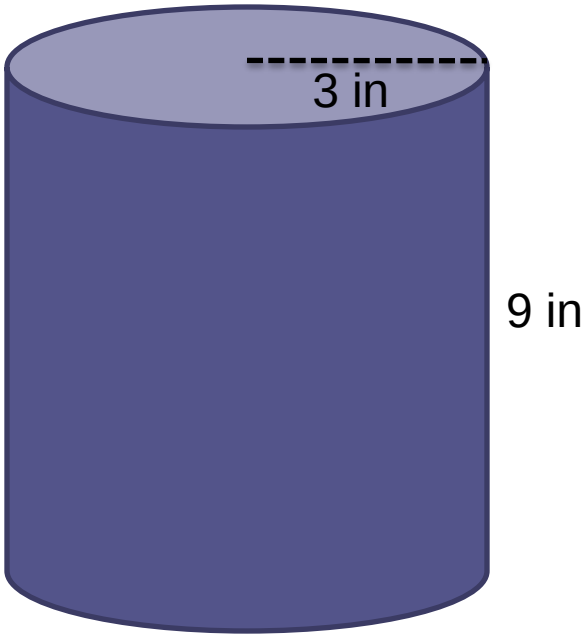
Must Remember Your AREA Calculations!

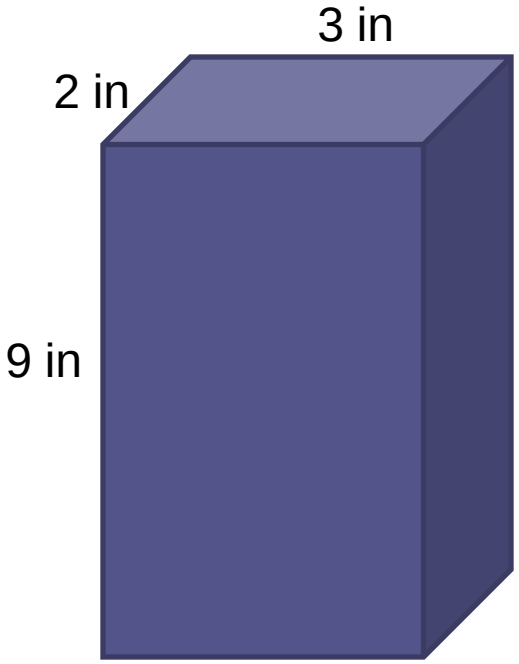




Example

- **Find the volume.**



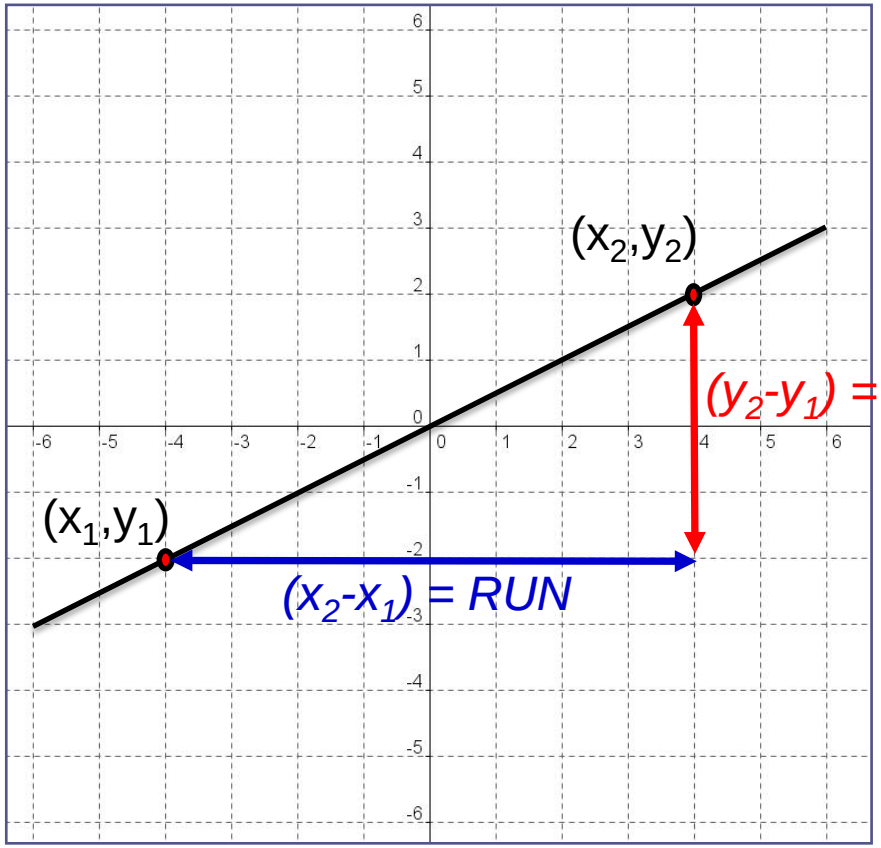


Applied Math – Daily Summary

- **Announcements**
  - Last Week of 3rd Quarter
  - TEST: Chapter 8 (Equations of Lines) on Thursday
- **Class Objectives – *What you should learn today!***
  - Understand and Calculate the Slope of a Line
  - Writing/Using Equation of Line in Slope-Intercept Form
    - Graphing a Line in Slope-Intercept Form
    - Writing Equation from Graph
    - Writing Equation given Slope and y-intercept
    - Transforming Equation to Slope-Intercept Form
- **Assignment**
  - **Worksheet:** Slope-Intercept Form of a Line

Review: Definition of Slope

$$Slope = \frac{vertical\ change}{horizontal\ change} = \frac{rise}{run} = \frac{y_2 - y_1}{x_2 - x_1} = m$$



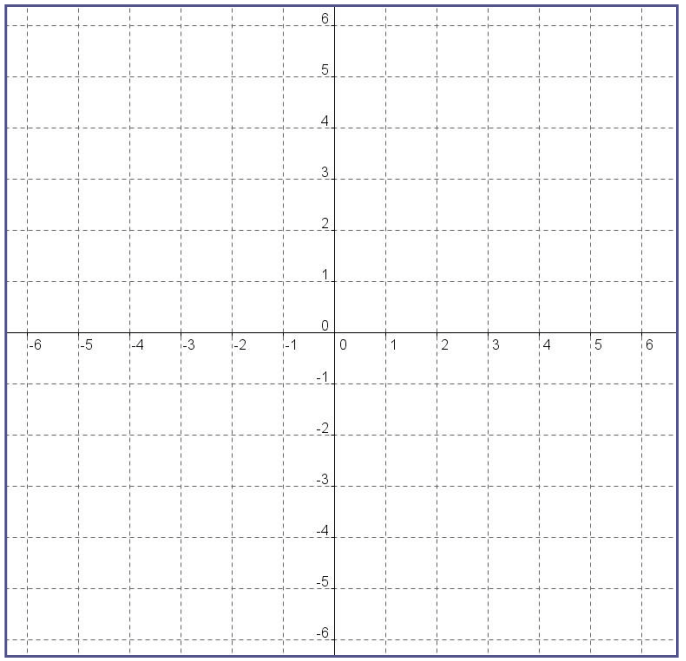
Slope-Intercept Form (& Graphing)

- **The Slope-Intercept Form of a Line is:**

$$y = mx + b$$

where m = slope of line, and b = y-intercept.

To Graph…
1. Plot y-intercept
2. Use Slope to find 2nd point.



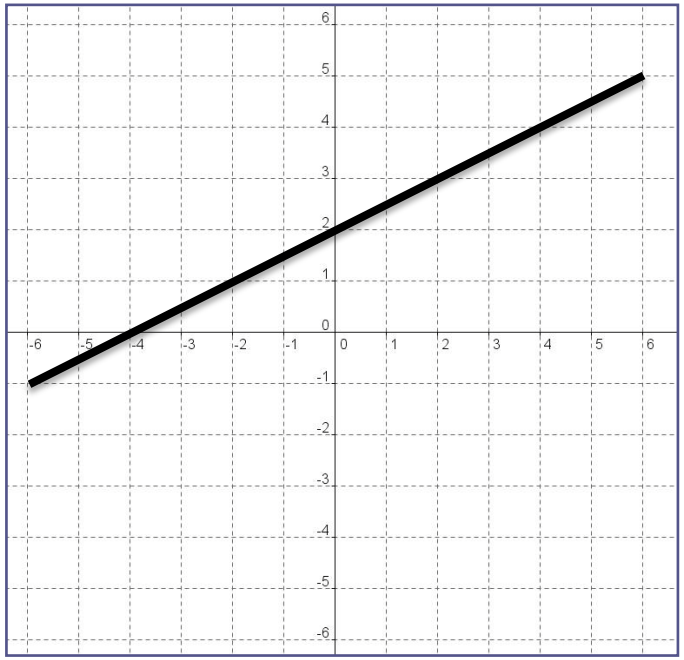
$$y = 2x + 1$$

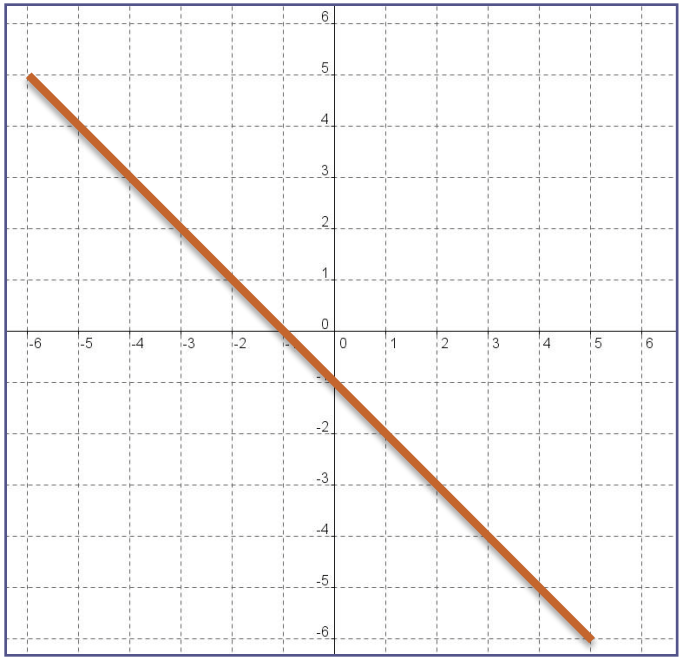
$$y = -3x - 1$$

S-I Form from a Graph

1. Find Slope
2. Find y-intercept

- **Find the S-I Form of the Equation from the graph.**





S-I Form Given Slope and y-intercept

- **Find the equation of the lines:**

$$Slope = 2$$

$$y-intercept = -3$$

$$Slope = -\frac{1}{3}$$

$$y-intercept = 2$$

Transforming to S-I Form

- **Graph the line:**

$$2x - 3y = 9$$