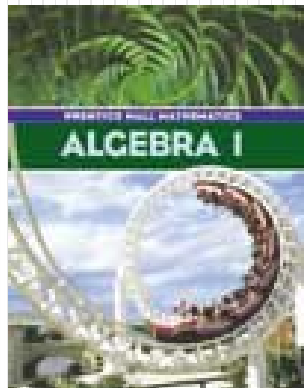
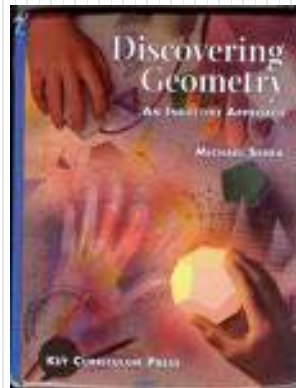


# Mr. Northcutt's Math Classes Class Presentation

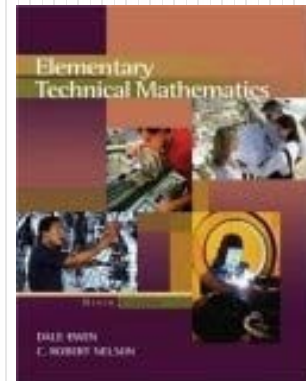
March 23, 2009 (126)



Math 1



Math 2



Applied Math



# Math 1 – Daily Summary

- **Announcements**
  - Last Week of 3<sup>rd</sup> 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...

$$\left. \begin{array}{l} y = 2x - 3 \\ y = x - 1 \end{array} \right\} \begin{array}{l} \text{Equations of Lines} \\ \text{(Slope-Intercept Form)} \end{array}$$

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

$(2,1)$    $y = 2x - 3$   
 $y = x - 1$





# Solving by Substitution

- Solve for  $y$  (or  $x$ ) in one equation and “substitute” the solution into the other equation.

$y = 3x - 12$	$\longrightarrow$	$4x - 16 = 3x - 12$	$\xrightarrow{(4,0)}$	$y = 3x - 12$
$y = 4x - 16$	<b>SOLVE</b>	$x - 16 = -12$	<b>CHECK</b>	$0 = 3(4) - 12$
		$x = 4$		$0 = 12 - 12$
		$\searrow$		$0 = 0$
		$y = 4(4) - 16$		$y = 4x - 16$
		$y = 16 - 16$		$0 = 4(4) - 16$
		$y = 0$		$0 = 16 - 16$
				$0 = 0$



# Math 2 – Daily Summary

- **Announcements**
  - Last Week of 3<sup>rd</sup> 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**

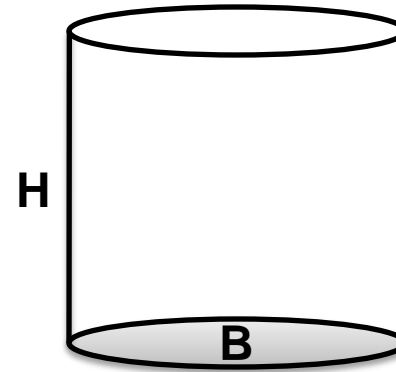
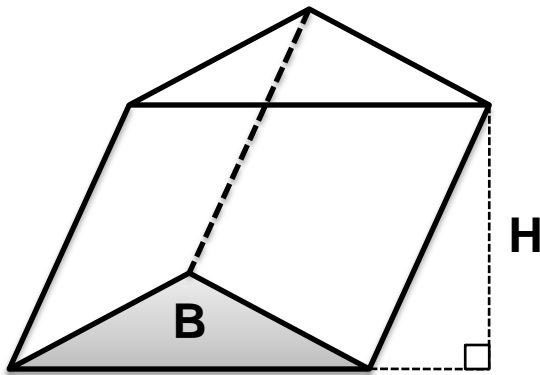


# Prism-Cylinder Volume Conjecture

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

$$V = B \cdot H$$

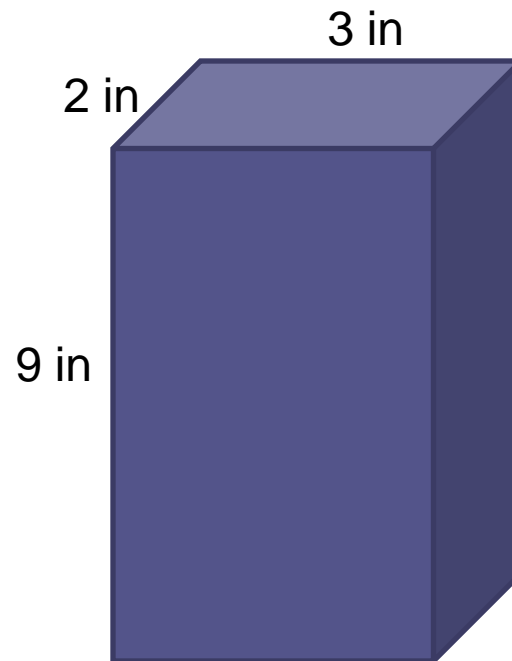
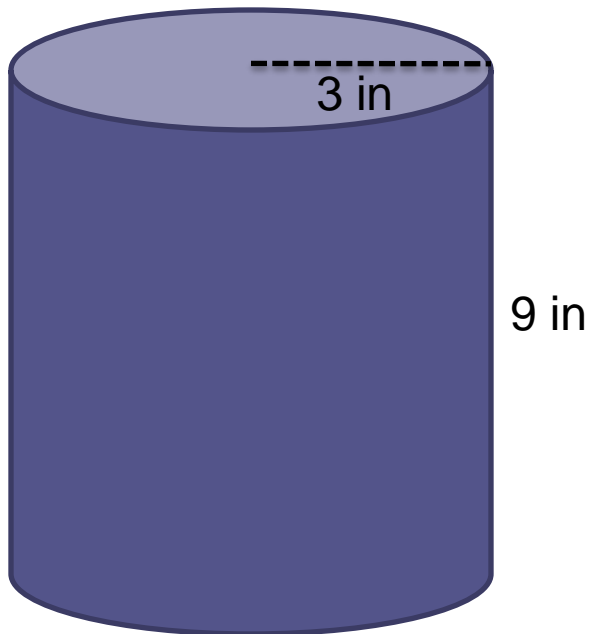
Must Remember Your  
AREA Calculations!





# Example

- Find the volume.



# Applied Math – Daily Summary



- **Announcements**

- Last Week of 3<sup>rd</sup> 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**

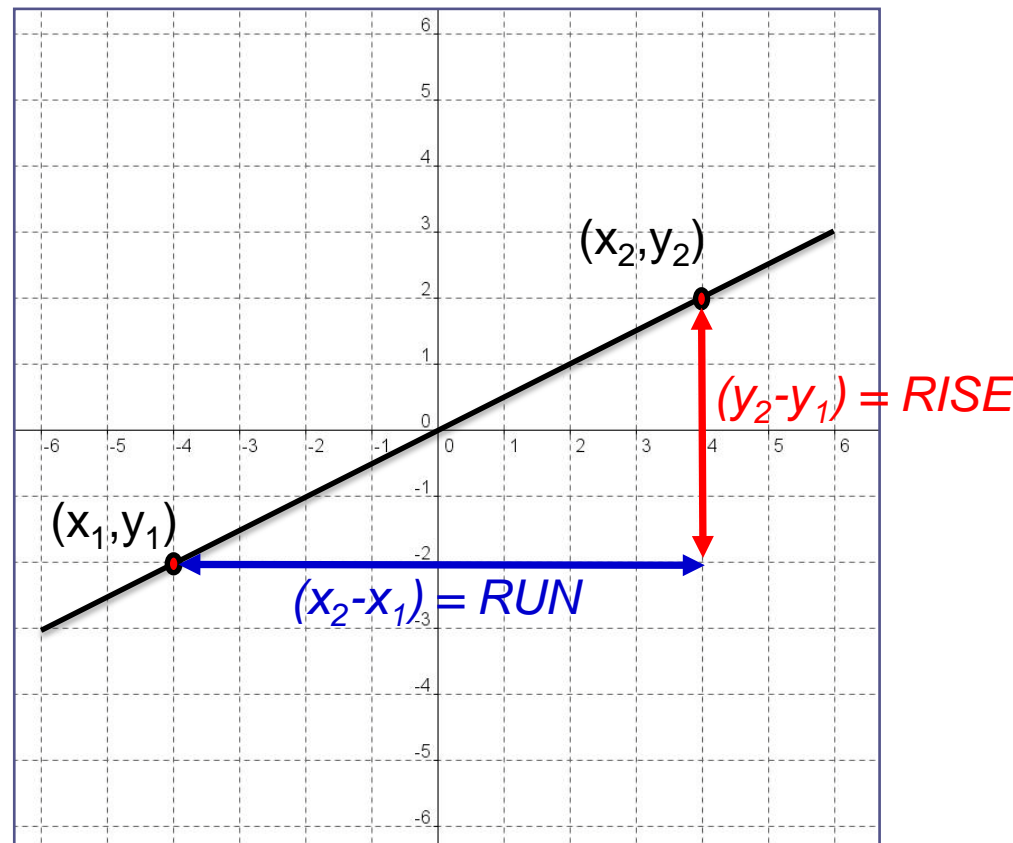
- **Worksheet:** Slope-Intercept Form of a Line





# Review: Definition of Slope

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



# Slope-Intercept Form (& Graphing)



- The Slope-Intercept Form of a Line is:

$$y = mx + b$$

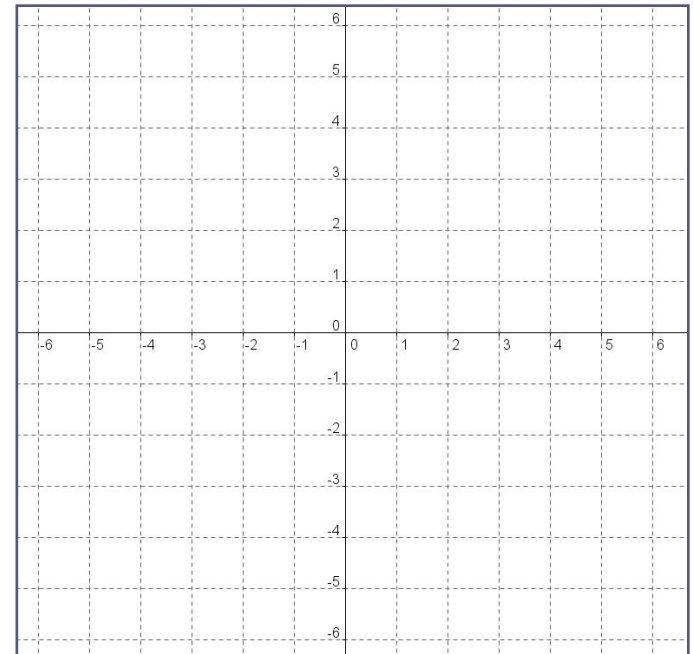
where **m** = slope of line, and **b** = y-intercept.

To Graph...

1. Plot y-intercept
2. Use Slope to find 2<sup>nd</sup> point.

$$y = 2x + 1$$

$$y = -3x - 1$$

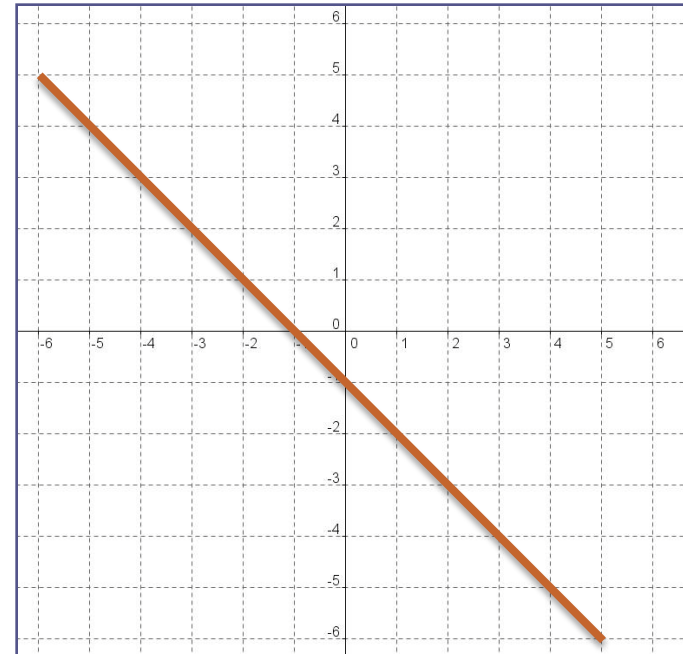
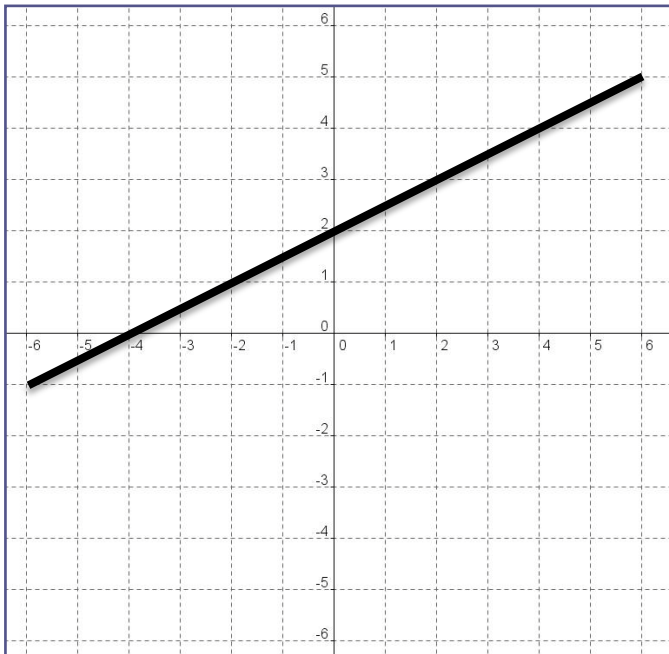


# S-I Form from a Graph

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:

$$\textit{Slope} = 2$$

$$\textit{y - intercept} = -3$$

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

$$\textit{y - intercept} = 2$$

# Transforming to S-I Form



- **Graph the line:**

$$2x - 3y = 9$$

