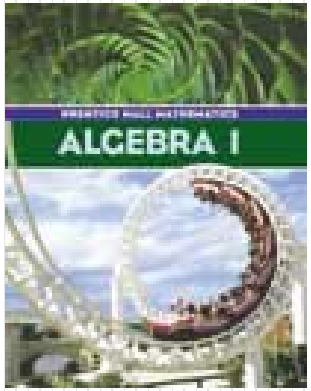
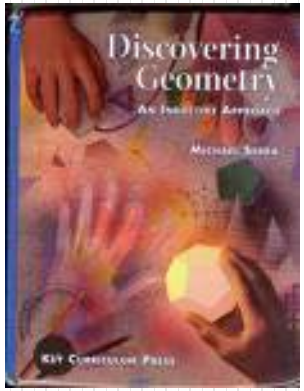
Mr. Northcutt's Math Classes
Class Presentation

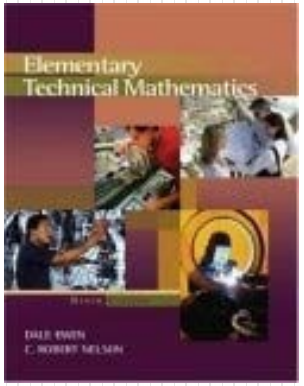
February 9, 2009 (99)



Math 1



Math 2



Applied Math

Math 1 – Daily Summary

- **Announcements**
  - Chapter 5 Test on Thursday
  - Early Release on Wednesday
- **Class Objectives – *What you should learn today*!**
  - More work on “Direct Variation” (in Functions & Graphs)
- **Assignment**
  - **Section 5-5**: 24-28, 30-36 EVEN, 41-44, 47-53 ODD

Direct Variation

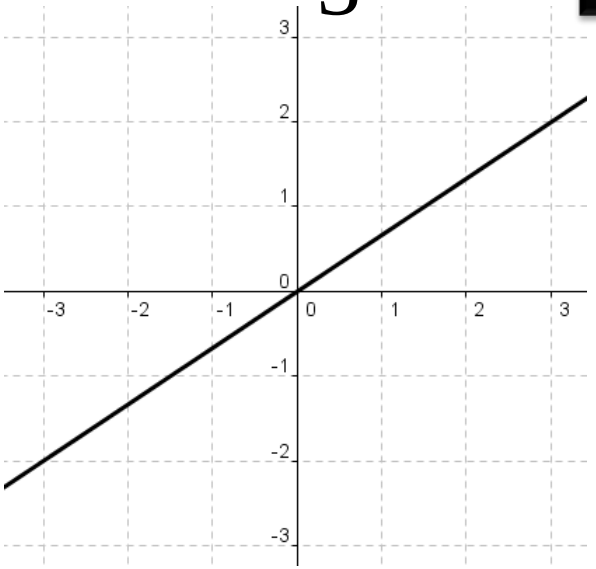
- **What does it mean for "y to vary directly with x"?**
  - **Function** in the form: **y = k•x**
  - Graph is a **Line** passing through the **Origin (0, 0)**.

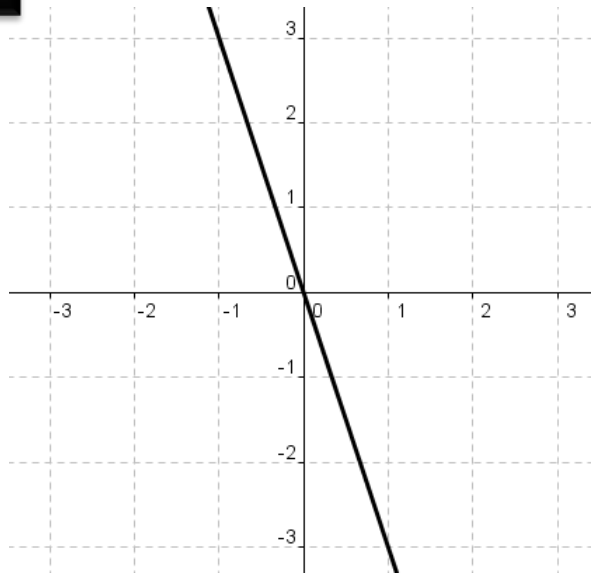
k =	**Constant of Variation**
	Rate of Change
	Slope of a Line

$$y = \frac{2}{3}x$$

"y varies directly with x"

$$y = -3x$$





Working with Data - Direct Variation?

- **Does y *vary directly* with x in the following data? If so, write the equation for the direct variation.**

x	y
-3	1.5
2	-1
7	-3.5

x	y
-8	-12
-4	-6
6	9

x	y
6	4
3	3
-3	-1

Equation of Direct Variation thru Point

- **Write an equation of direct variation thru the following points - graphing might help you see the value of k.**

$(2,5)$ $(-3,9)$ $(-2,-4)$

Math 2 – Daily Summary

- **Announcements**
  - Chapter 5 Test on Thursday
  - Early Release on Wednesday
- **Class Objectives – *What you should learn today!***
  - Ability to apply knowledge of area and surface area to a variety of problems.
- **Assignment**
  - **Lesson 9.8**: 1-12

HW Answers: Lesson 9-7

1: 150 cm^2

2: 4070 cm^2

3: 216 cm^2

4: 1188 cm^2 or 378**B** cm^2

5: 340 cm^2

6: 104 cm^2 or 33**B** cm^2

7: 1604 cm^2

8: 1040 cm^2

9: 415 cm^2 or 132**B** cm^2

10: 329 cm^2

11: Triangles (4), Trapezoid (4), Rectangle (1)

14: 16**B** cm^2

16: Probability = 1/25 = 4%

What Have We Learned?

- **Area of a Polygon**
  - Rectangle & Parallelogram
  - Triangle, Trapezoid & Kite
  - Regular Polygon
- **Area of a Circle & Derivatives**
  - Circle
  - Sector, Segment & Annulus
- **Surface Area**
  - Polygonal Prisms & Pyramids
  - Cylinders & Cones

Know formula and be able to draw a labeled example of each!

Applications of ALL area formulas…

Applied Math – Daily Summary

- **Announcements**
  - Chapter 4 Test on Thursday.
  - Early Release on Wednesday.
- **Class Objectives – *What you should learn today!***
  - Understand **Accuracy & Precision** and be able to apply to mathematical calculations.
  - Understand **Relative Error** & **Percent of Error**
  - Understand **Tolerance** and its application to parts and components in industry
- **Assignment**
  - **Section 4.7**: 2-42 EVEN

Relative Error & Percent of Error

- **Relative Error:** $\dfrac{greatest\ possible\ error}{measurement}$

- **Percent of Error:** Relative Error as a Percent

- **Example**: Find the relative error and percent of error of the measurement 13.8 m.
  - Precision = 0.1 m
  - GPE = 0.05 m

$$Relative\ Error = \frac{0.05\ m}{13.8\ m} = 0.00362$$

$$Percent\ of\ \ Error = \frac{0.00362}{100} = 0.362\%$$

Example

- **Compare 3 ¾ in and 16 mm. Which has smallest percent error (is the "better measurement").**

Measurement	3 ¾ in	16 mm
Precision	1/4 in	1 mm
Greatest Possible Error	1/8 in	0.5 mm
Relative Error	0.0333	0.03125
Percent Error	3.33%	3.125%

↓ ½ of precision

↓ ÷ measurement

↓ as %

Tolerance

- **Tolerance**
  - The acceptable amount that a part or component may vary from its specified/manufactured size.
- **Size, Upper Limit, Lower Limit, Tolerance Interval**

Measured Dimension	Specified Size	Tolerance	Upper Limit	Lower Limit	Tolerance Interval
Diameter:	10.200 cm	±0.001 cm	10.201 cm	10.199 cm	0.002 cm
Height:	14.800 cm	±0.005 cm	14.805 cm	14.795 cm	0.010 cm