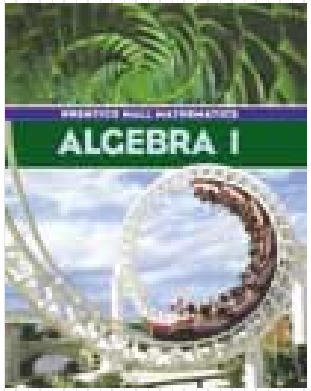
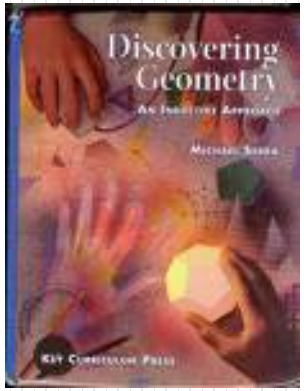
Mr. Northcutt's Math Classes
Class Presentation

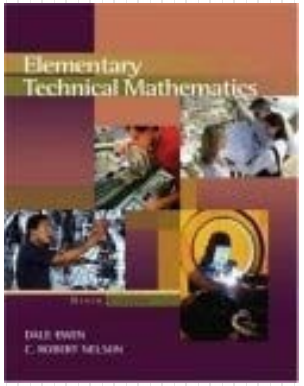
September 8, 2008 – Day 5



Math 1



Math 2



Applied Math

Strange but True!

Cna yuo raed tihs? Olny 55 plepoe out of 100 can.

i cdnuolt blveiee taht I cluod aulaclty uesdnatnrd waht I was rdanieg. The phaonmneal pweor of the hmuan mnid, aoccdrnig to a rscheearch at Cmabrigde Uinervtisy, it dseno't mtaetr in waht oerdr the ltteres in a wrod are, the olny iproamtnt tihng is taht the frsit and lsat ltteer be in the rghit pclae. The rset can be a taotl mses and you can sitll raed it whotuit a pboerlm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe. Azanmig huh? Yaeh, and I awlyas tghuhot slpeling was ipmorantt!

Math 1 – Daily Summary

- **Announcements**
  - Web Access and Notebook Check on Wednesday
  - Quiz on Thursday (1-1 and 1-2)
- **Class Objectives**
  - Expression vs. Equation
  - Defining Variables
  - Modeling Relationships with Variables & Equations
    - Starting with "English sentence"
    - Starting with a data table
- **Assignment**
  - **Exercises 1-1**: 17-24, 39-44

Refresher

- **What is a Variable? What are some examples?**

- **What are the "building blocks" of an Expression?**

- **Define an Expression for:**
  1. 7 less than 9
  2. The product of 6 and twice k
  3. 4 more than twice a number
  4. The difference of the quotient of g and 3 and the product of 9 and a number

Expressions vs. Equations

- **EQUATION**
  - An Expression that uses an equal sign ("=")
  - Which Expressions are also Equations?

$$4n+3 \qquad j=4k-2 \qquad \frac{x}{y}=\frac{1}{8g-f} \qquad \frac{3w\div 2}{(x-7)}$$

- **We use Equations to Model Relationships**
  - Cost vs. Quantity
  - Distance vs. Time
  - Grade vs. Effort
  - Weight vs. Age
  - …what are some other relationships?

Practice Problem (from English)

- **Virgin Records sells all DVDs for $15 each. Write an equation for the total cost for a given number of DVDs.**
  1. Identify the variables.
  2. **Define the variables.**
  3. Identify the relationship between the variables.
  4. **Write the equation.**

Practice Problem (from English)

- **The total cost is the number of sandwiches times $3.50**
  1. Identify the variables.
  2. **Define the variables.**
  3. Identify the relationship between the variables.
  4. **Write the equation.**

Practice Problem (from Data Table)

- Write an equation for the data in the table.
  1. Identify the variables.
  2. **Define the variables.**
  3. Identify the relationship between the variables.
  4. **Write the equation.**

Cost of Purchase	Change from $20
$20.00	$0.00
$19.00	$1.00
$17.50	$2.50
$11.59	$8.41

Practice Problem (from Data Table)

- Write an equation for the data in the table.
  1. Identify the variables.
  2. **Define the variables.**
  3. Identify the relationship between the variables.
  4. **Write the equation.**

# HW Missed	Final Grade
0	100
5	90
10	80
15	70
20	60

Math 2 – Daily Summary

- **Announcements**
  - Web Access and Notebook Check on Wednesday
  - Quiz on Thursday (1-1 and 1-2)
- **Class Objectives**
  - More Inductive Reasoning…with **Pictures**.
- **Assignment**
  - **Lesson 1.3**: 1-10, 13, 23, 25-27

HW Review

12. 1, 3, 4, 7, 11, 18, -?-, -?-

15. 2, 6, 15, 31, 56, 92, -?-, -?-

18. 3, -12, 48, -192, 768, -?-, -?-

HW Review (Improving Reasoning)

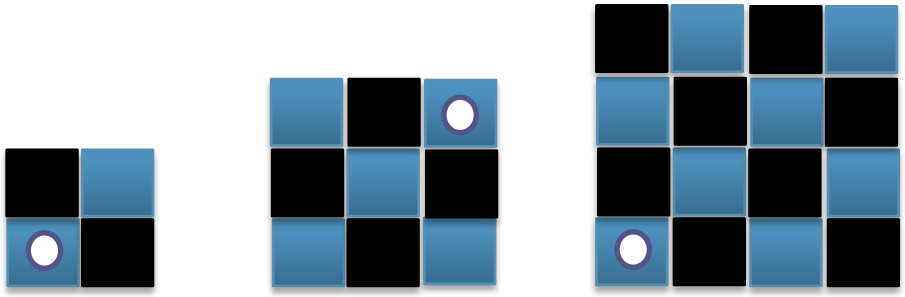
1. 18, 46, 94, 63, 52, 61, -?-
2. O, T, T, F, F, S, S, E, N, -?-
3. 4, 8, 61, 221, 244, 884, -?-
4. 6, 8, 5, 10, 3, 14, 1, -?-
5. B, 0, C, 2, D, 0, E, 3, F, 3, G, -?-
6. A E F H I K L M N T V W

   B C D G J O P Q R S U

   Where do the X, Y, and Z go?
7. 2, 3, 6, 1, 8, 6, 8, 4, 8, 4, 8, 3, 2, 3, 2, 3, -?-

Practice Problem

- **Draw the next shape in the pattern**



Applied Math – Daily Summary

- **Announcements**
  - Web Access and Notebook Check on Wednesday
  - Quiz on Thursday (1.1-1.4)
- **Class Objectives**
  - Selecting/Defining Units of Measure
  - Area
  - Volume
- **Assignment**
  - **Exercises 1.3**: 7, 10, 12, 14, 18, 24, 31, 35, 36

HW Answers: 1.1: 4-40 (by 4)

#4: 50

#8: 89

#12: 93

#16: 124

#20: 19

#24: 3

#28: 0

#32: 7

#36: 22

#40: 80

Selecting Units of Measure (Length)

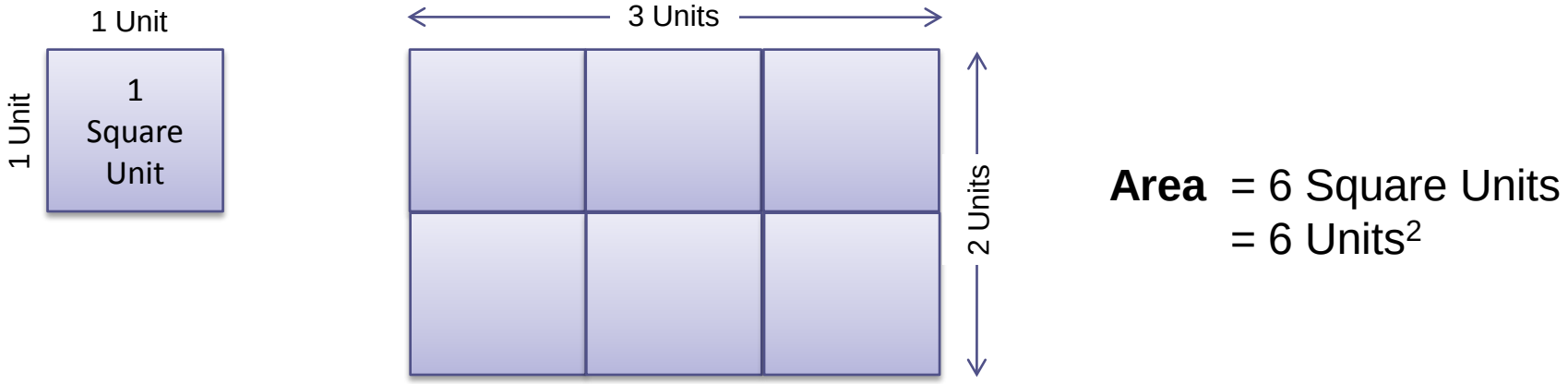
- **What "Unit of Measure" for Length would be most appropriate (in Metric and English systems)?**
  - Dimensions of your Textbook
  - Width of Smartboard
  - Length of Football Field
  - Distance from Polson to Missoula

How many spatial dimensions are measured with length?

Metric System	English System
Millimeters (mm)	Inches (in)
Centimeters (cm)	Feet (ft)
Meters (m)	Yards (yd)
Kilometers (km)	Miles (mi)

Area ("Measure" in 2-Dimensions)

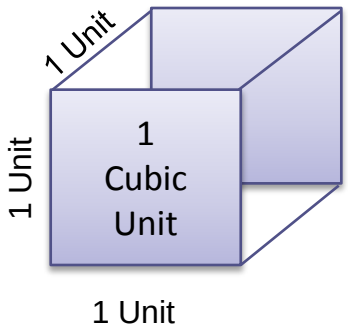
- **Area is measured in "Square Units"**
  - The "Unit" is based on the selected unit of measure

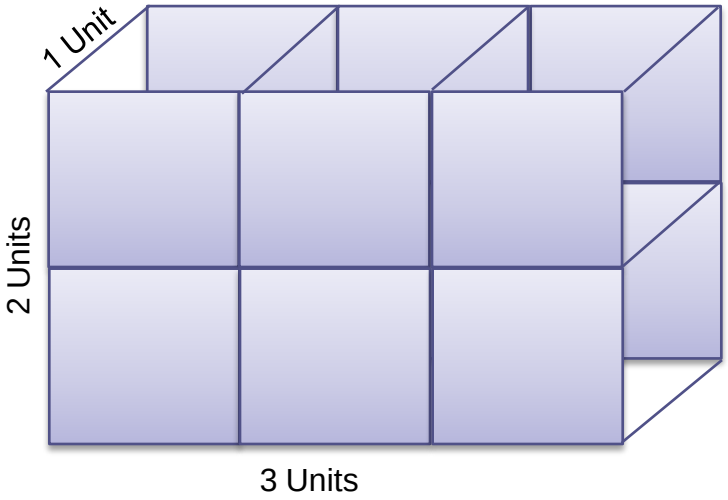


- **If "unit of measure" is…what is measure of Area?**
  - millimeters
  - feet
  - meters

Volume ("Measure" in 3-Dimensions)

- **Volume is measured in "Cubic Units"**
  - The "Unit" is based on the selected unit of measure



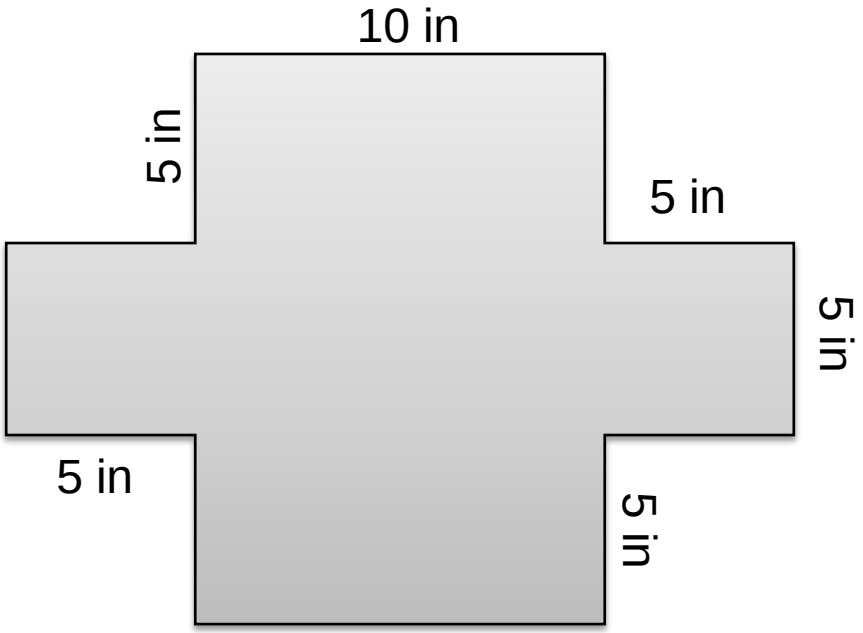


Volume = 6 Cubic Units
= 6 Units^3

- **If "unit of measure" is…what is measure of Volume?**
  - kilometers
  - yards
  - miles

Practice Problem (Area)

- **Find the Area**



- **Is there more than one way to solve this problem?**
- **Are some ways easier than others?**

Practice Problem (Volume & Density)

- **A railway boxcar 50 ft by 10 ft by 11 ft is filled with coal. Given that 1 ft^3 of coal weighs ~40 lb. and 1 ton = 2000 lb, how many tons of coal are in one rail car (assume the coal is level with the top of the boxcar)?**