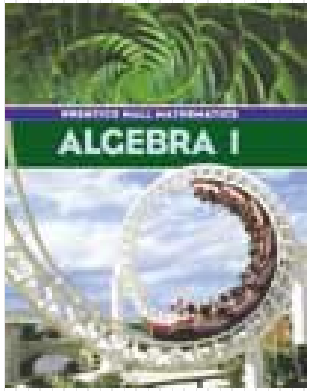
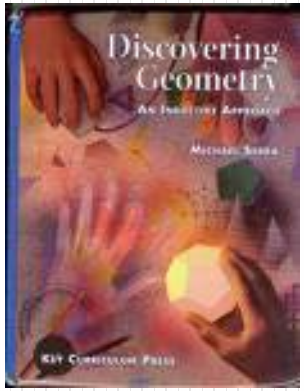
Mr. Northcutt's Math Classes
Class Presentation

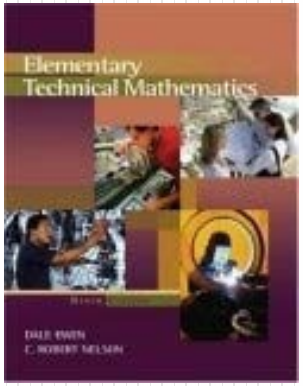
November 18, 2008 (52)



Math 1



Math 2



Applied Math

Math 1 – Daily Summary

- **Announcements**
  - Mr. Northcutt will be back on Thursday
- **Class Objectives**
  - Percent of Change
- **Assignment**
  - **Lesson 4-4**: 1-12, 30-40, 42-43

Do Work on Separate Paper & Hand In!

1. Write Problem
2. Show Each Step
3. Check Answer – Show Work for Check too!

NOTE: Computer Use Only After All Work Verified by Substitute!

Percent of Change

- **REVIEW: A percent is a ratio that compares a number to 100.**

$$\frac{n}{100} = \frac{part}{whole}$$

- **Percent Change is the ratio of the amount change to the original amount expressed as a percent.**

$$\frac{\text{amount of change}}{\text{original amount}} = \frac{n}{100}$$

Amount of change > 0
Percent of Increase

Amount of change < 0
Percent of Decrease

Example

- **The price of a iPod decreased from $249.99 to $189.99. Find the percent change.**

Amount of Change | **Percent Change (Decrease)** | **Original Amount**

$$\begin{array}{r} 249.99 \\ -189.99 \\ \hline 60.00 \end{array} \rightarrow \frac{60.00}{249.99} \leftarrow 249.99$$

$$0.24 = \frac{24}{100} = 24\%$$

HW Solution 4.4 – Check Answers

1: 50% increase

2: 33 1/3% decrease

3: 25% increase

4: 20% increase

5: 33 1/3% increase

6: 25% decrease

7: 25% increase

8: 20% increase

9: 84.4% increase

10: 71.1% increase

11: 60.7% decrease

12: 14.4% increase

39: 2%

40: 19%

42: No; 16% increase but a 14% decrease

43: No; increase to $70.40 but decrease to $63.36

Math 2 – Daily Summary

- **Announcements**
  - Mr. Northcutt will be back on Thursday
- **Class Objectives**
  - Algebra Review
    - Operations with Polynomials (Multiplication & Division)
- **Assignment**
  - Polynomials Worksheet

NOTE: Computer Use Only After All Work Verified by Substitute!

Use Separate Sheet of Paper & Hand In!

1. Write Problem
2. Show Each Step
3. Check Answer!

Multiplying Monomials

- **Recall that a <u>monomial</u> is a polynomial with <u>1 term</u>.**

$$2x \qquad 4xy^2 \qquad 3xy \qquad 6$$

- **When you multiply monomials you multiply numbers and variables (simplify using exponents).**

$$4xy^2 \cdot 3xy = (4 \cdot 3)(x \cdot x)(y^2 \cdot y)$$
$$= 12x^2y^3$$

Multiplying Polynomials

- **Multiplying polynomials is really just the repeated application of the Distributive Property and combining Like Terms.**

$$(x+2)(x^2-x+3) = x(x^2-x+3)+2(x^2-x+3)$$
$$= x^3-x^2+3x+2x^2-2x+6$$
$$= x^3+x^2+x+6$$

Multiplying Polynomials

- **You can multiply polynomials using the same technique you use to multiply two numbers…**

$$\begin{array}{r} 243 \\ \times\ 27 \\ \hline 1701 \\ 486 \\ \hline 6561 \end{array}$$

$$\begin{array}{rrrr} & x^2 & -x & +3 \\ \times & & x & +2 \\ \hline & 2x^2 & -2x & +6 \\ x^3 & -x^2 & +3x & \\ \hline x^3 & +x^2 & +x & +6 \end{array}$$

Dividing Polynomials

- **You can divide polynomials using the same technique you use to divide numbers...**

$$\begin{array}{r} 32 \\ 12\overline{)3624} \\ -\ 36 \\ \hline 24 \\ -\ 24 \\ \hline 0 \end{array}$$

$$\begin{array}{r} \times \\ x+1\overline{)2x^2-x-3} \\ -\ 2x^2+2x \\ \hline -3x-3 \\ -\ -3x-3 \\ \hline 0 \end{array} \qquad 2x-3$$

Applied Math – Daily Summary

- **Announcements**
  - Mr. Northcutt will be back on Thursday
- **Class Objectives**
  - Writing Equations and Problem Solving
    - Many struggled on the quiz with these problems!
- **Assignment**
  - Worksheet: Equations and Problem Solving

NOTE: Computer Use Only After All Work Verified by Substitute!

Use Separate Sheet of Paper & Hand In!

1. Write Problem
2. Show Each Step
3. Check Answer!

Steps for Problem Solving

- **You might find the following process useful:**
  1. Read the problem carefully (at least twice)
  2. Draw a diagram to help visualize the problem.
  3. Define a Variable(s) for the unknown quantity(s).
  4. Write an Equation(s) to express relationships in the problem using the variable(s).
  5. Solve the equation for the variable(s).
  6. Check your answer – in the equation and using common sense.

Example – **Expect All Steps on HW**

- **Distribute $2500 among Frank, Bill, and Larry so that Frank receives $100 more than Bill and Larry receives half of what Bill receives.**

Step 1: Define Variables

F = Amount Frank Receives
B = Amount Bill Receives
L = Amount Larry Receives

Step 2: Define Equations

$F + B + L = 2500$ (Total Amount)
$F = B + 100$ (Frank's Amount)
$L = B / 2$ (Larry's Amount)

Step 3: Solve Equations

$$B + 100 + B + \frac{B}{2} = 2500$$
$$\frac{5B}{2} + 100 = 2500$$
$$\frac{5B}{2} = 2400$$
$$5B = 4800$$
$$B = \$960$$
$$F = \$1060$$
$$L = \$480$$