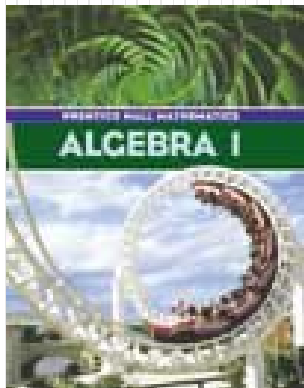
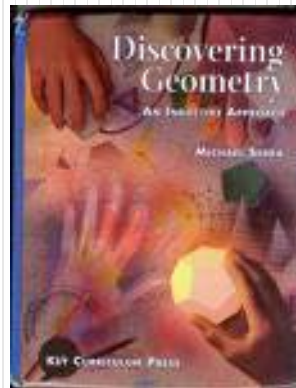


Mr. Northcutt's Math Classes Class Presentation

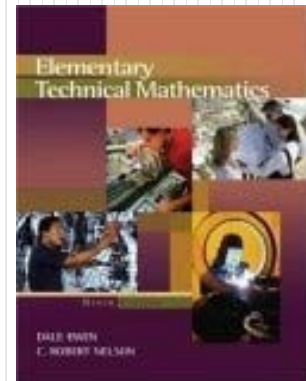
November 17, 2008 (51)



Math 1



Math 2



Applied Math



Math 1 – Daily Summary

- **Announcements**

- Mr. Northcutt will be back on Thursday

- **Class Objectives**

- Solving Percentages with Binomial Terms
 - Everyone struggled on the Quiz with these problems!

- **Assignment**

- **Lesson 4-1: 32-37, 53-61**



Do Work on Separate Paper to 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!



Solving Proportions with Binomials

- **REVIEW:** A proportion is an equation that states that two ratios are equal.

$$\frac{3}{4} = \frac{x}{8}$$

- **ALL** could solve this equation using cross-multiplication

$$\begin{array}{l} \frac{3}{4} = \frac{x}{8} \\ 4x = 24 \\ x = 6 \end{array}$$



Solving Proportions with Binomials

- When the proportion includes one/two binomials the process is exactly the same...

Important!

$$\frac{x+4}{5} = \frac{x-2}{7}$$

- Rewrite with “(...)” around the binomials – to remind you to use the Distributive Property...

$$\frac{(x+4)}{5} = \frac{(x-2)}{7}$$
$$\cancel{\frac{(x+4)}{5}} \times \cancel{\frac{(x-2)}{7}}$$
$$7(x+4) = 5(x-2)$$
$$7x + 28 = 5x - 10$$
$$2x + 28 = -10$$
$$2x = -38$$
$$x = -19$$



Solving Proportions with Binomials

- The same process works with binomials in the denominator (the bottom part of the fraction)...

$$\frac{8}{b+10} = \frac{4}{2b-7}$$

$$8(2b-7) = 4(b+10)$$

$$16b - 56 = 4b + 40$$

$$12b - 56 = 40$$

$$12b = 96$$

$$b = 8$$

Check
Answer!

$$\frac{8}{8+10} = \frac{4}{2(8)-7}$$

$$\frac{8}{18} = \frac{4}{16-7}$$

$$\frac{8}{18} = \frac{4}{9}$$

$$\frac{4}{9} = \frac{4}{9}$$





Math 2 – Daily Summary

- **Announcements**

- Mr. Northcutt will be back on Thursday
 - We will get back to Geometry/Proofs when I return...

- **Class Objectives**

- Algebra Review
 - Operations with Polynomials (Terminology, Add & Subtract)

- **Assignment**

- Polynomials Worksheet

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

**Use Separate Sheet of Paper to
Hand In!**

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



Polynomial Terminology

- **TERM:** Single number or product of a number and one or more variables raised to a power.
 - The terms in an **ALGEBRAIC EXPRESSION** are separated by plus (+) and minus (-) signs.
- **COEFFICIENT:** The numerical factor of a term.
- **DEGREE OF A TERM:** The sum of the powers of the variables in a term.

$$2x^1$$

Coefficient = 2
Degree = 1

$$4x^1y^2$$


Coefficient = 4
Degree = 3

$$3x^1y^1$$

Coefficient = 3
Degree = 2

$$6$$

Coefficient = 6
Degree = 0

Constant has
Degree 0! 



Naming Polynomials

- **Monomial:** Contains only one (1) term (product of a number and zero or more variables).
- **Binomial:** A polynomial with exactly two (2) terms.
- **Trinomial:** A polynomial with exactly three (3) terms.
- **Polynomial:** Monomial or sum/difference of unlike monomials (ALL above are also Polynomials).

$$5xy^3 - 4$$

binomial

$$3x^2 + 2xy - 5$$

trinomial

$$4x$$

monomial

$$x^5 - 4x^3 + 3x^2 - 2x + 9$$

polynomial



Degree of a Polynomial

- **Degree of Polynomial:** The degree of the highest degree monomial contained in the polynomial.

$$6x^3 + 4y^2 - y^1 + 2$$

Degree of Polynomial = 3

$$3y^4 - 4y^2x^2z^1 - z^2 + 2x^1$$

Degree of Polynomial = 5

- **Writing a Polynomial (STANDARD FORM)**

1. Order terms from highest to lowest degree.
2. If degree is the same, alphabetize by variable with highest degree.

$$-4x^2y^2z + 3y^4 - z^2 + 2x$$

Adding and Subtracting Polynomials



- **It's Simple!**

Add/Subtract "Like Terms"

- **It is useful to write the polynomials with like terms in same columns – like you do with "ordinary" numbers.**

$$(5x^2 + 6x - 8) + (4x^2 - 3) \rightarrow \begin{array}{r} 5x^2 + 6x - 8 \\ + 4x^2 - 3 \\ \hline 9x^2 + 6x - 11 \end{array}$$



Subtracting Polynomials

- **Be Careful** with the subtraction (-) and Negative Signs!!!

$$(5x^2 - 3x - 4) - (2x^2 - 5x + 6)$$

$$\begin{array}{r} 5x^2 - 3x - 4 \\ - (2x^2 - 5x + 6) \\ \hline 3x^2 + 2x - 10 \end{array}$$



Applied Math – Daily Summary

- **Announcements**

- Mr. Northcutt will be back on Thursday

- **Class Objectives**

- Solving Equations with Fractions
 - Many struggled on the quiz with these problems!

- **Assignment**

- Worksheet: Equations with Fractions

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

Use Separate Sheet of Paper to
Hand In!

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



Review: Add/Subtract Fractions

- **REMINDER:** To add or subtract fractions you must first rewrite the terms with a common denominator.

$$\frac{2}{3} + \frac{4}{9} = \frac{2}{3} \cdot \frac{3}{3} + \frac{4}{9} = \frac{6}{9} + \frac{4}{9} = \frac{10}{9} = 1\frac{1}{9}$$

Common
Denominator
is 9.

Multiplying by "1" does
not change the value of
the term.



Equations with Fractions

- Look at 2 methods for solving equations with fractions:

1. Common Denominator (like fractions)
2. Eliminate Fractions (multiply by common denominator)

1

$$\frac{2x}{3} + \frac{x}{2} = 7$$

$$\frac{2x}{3} \cdot \frac{2}{2} + \frac{x}{2} \cdot \frac{3}{3} = 7$$

$$\frac{4x}{6} + \frac{3x}{6} = 7$$

$$\frac{7x}{6} = 7$$

$$7x = 42$$

$$x = 6$$

Common Denominator

2

$$\frac{2x}{3} + \frac{x}{2} = 7$$

$$6 \cdot \left(\frac{2x}{3} + \frac{x}{2} \right) = 7 \cdot 6$$

$$4x + 3x = 42$$

$$7x = 42$$

$$x = 6$$



Variable in Denominator

- Consider the following equation:

$$\frac{8}{x} + 2 = 6$$

$$\frac{8}{x} = 4$$

$$x \cdot \frac{8}{x} = 4 \cdot x$$

$$8 = 4x$$

$$2 = x$$