A1 S2 w4d3 8-2 Multiplying Polynomials

Alg I Week 4 Block Warm Up

1. Skill 10: Solve a System of Linear Equations Algebraically & check your answer

   y = 4x-8

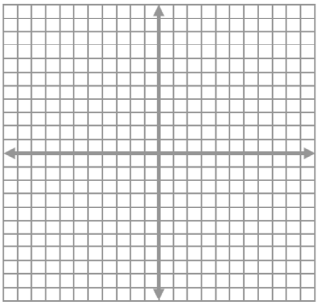
   y = 2x+10

   Check:

2. Skill 11: Solve a System of Linear Inequalities by graphing and CHECK.

   A. $8x + 4y \geq 16$

   B. $3x - 6y > 12$

   Check:

3. Skill 12: Simplify an Exponential Expression

   Simplify, leaving no negative exponents.

$$\frac{k^{-2} \bullet k^{-3} \bullet k^{3}}{\left(k^{4}\right)^{-3} \bullet k^{2}}$$

4. Diamond Problems: What multiplies to make the top number and adds to make the bottom number?

   a) 5 / -6

   b) -6 / 1

   c) 24 / 8

   d) -36 / 5

5. Word Problems: show all work

   Five roses and two boxes of candy cost $36.50. Six roses and one box of candy cost $32.25. How much do ten roses and 3 boxes of candy cost?

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Alg 1 Week 4 Block

The Box Method

In this activity, we will learn to muliply polynomials. We will find it helpful to draw boxes to represent the process, so we will call this the Box Method for multiplying. Study the examples carefully before you begin.

Example 1: $3x(2x + 1) = ?$

This is like finding the area of a patio with dimensions $3x$ and $2x + 1$.

Here's what the Box Method looks like:

	$2x$	$+1$
$3x$	$3x \cdot 2x = 6x^2$	$3x \cdot 1 = 3x$

So $3x(2x+1) = 6x^2 + 3x$

Example 2: $(x + 3)(x - 4) = ?$

This is like finding the area of a patio with dimensions $x + 3$ and $x - 4$.

Here's what the Box Method looks like:

	x	-4
x	$x \cdot x = x^2$	$x \cdot -4 = -4x$
$+3$	$3 \cdot x = 3x$	$3 \cdot -4 = -12$

So $(x+3)(x-4) = x^2 + -1x + -12$

(or $x^2 - x - 12$)

Now try this problem using the Box Method:

$(3x + 4)(2x - 3) = ?$

Use the Box Method shown above to multiply the following.

1. $3(2x + 4) =$

2. $x(x + 5) =$

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3. $(2x-3)(x-1) =$	4. $(5x-4)(3x+2) =$
5. $(2x-3)(3x-4) =$	6. $(6x+1)(x+2) =$
7. $(x+5)(7x-3) =$	8. $(x-4)(x-6) =$
9. $(x-3)^2 =$ (Be careful!)	10. $(x-4)(3x^2+2x-2) =$

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Alg 1 Week 4 Block HW **More Box Method Practice**

Multiply and simplify by using the Box Method for multiplying polynomials:

1. $x(5x-2)$

2. $-3(5x-2)$

3. $(3x+1)\,(3x+4)$

4. $4x(3x+4)$

5. $(4n+6)(2n+3)$

6. $(6n+1)(5n-2)$

7. $(2p+2)(8p+1)$

8. $(6x-2)(3x-2)$

9. $(8m-7)^2$

10. $(x+3)(8x^2+x-5)$