MULTIPLYING POLYNOMIALS

AGENDA
Warm-Up
Notes p. 91
Poster Project
HW #1-10

REMINDERS
Test Friday

OBJECTIVE
How do I find the simplified product of two polynomials?

WARM-UP TUESDAY

1. Which expression is equivalent to $3(x - 2) - (4x+3)$?

$3x - 6 - 4x - 3$

$-x - 9$

A. $-x+1$
B. $-x+9$
C. $-x-9$
D. $-x-3$

2. The area of a rectangle is ($10a^3 b^6$) square units. If the length is ($2a^3 b^{-3}$) units, how many units wide is the rectangle?

$A = L \cdot W$

$\dfrac{L}{L}$

$\dfrac{10 \; b^6 b^3}{2 \; b^{-3}}$

$10 \div 2 = 5$

A. $8b^9$
B. $5b^9$
C. $5ab^9$
D. $20a^6 b^3$

TODAY'S NOTES!

You will WRITE each problem, show the work/process used, and clearly mark your solution. Use COLOR and write down any steps/tools you can use to help solve these problems!

These notes are your textbook!!

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ESSENTIAL QUESTION How do I find the simplified product of two polynomials?

Name each poly ⟹ Dimensions of Box

1. $x(2x+4)$ 1x2 box
    mono bi.

$$\begin{array}{c|c|c} & 2x & +4 \\ \hline 1x & 2x^2 & +4x \end{array} = \boxed{2x^2+4x}$$

multiply sides, add insides (like terms)

2. $3x(4x-2y)$

$$\begin{array}{c|c|c} & 4x & -2y \\ \hline 3x & 12x^2 & -6xy \end{array} = \boxed{12x^2-6\ldots}$$

Double
DISTR…

3. $-3xy(3x^2y+6xy-5xy^2)$

$$\begin{array}{c|c|c|c} & 3x^2y & +6xy & -5xy^2 \\ \hline -3xy & -9x^3y^2 & -18x^2y^2 & +15x^2y^3 \end{array}$$

$$= \boxed{-9x^3y^2-18x^2y^2+15x^2y^3}$$

4. $(x-1)(x+3)$ 2x…

$$\begin{array}{c|c|c} & x & +3 \\ \hline x & x^2 & +3x \\ \hline -1 & -1x & -3 \end{array} \quad \boxed{x^2+2x}$$

$$x^2+3x-1x-3$$

5. $(3y+2)(y-4)$

$$\begin{array}{c|c|c} & y & -4 \\ \hline 3y & 3y^2 & +12y \\ \hline +2 & +2y & -8 \end{array}$$

$$\boxed{3y^2-10y-8}$$

6. $(2x-1)^2$ TIMES

$$= (2x-1)(2\ldots$$

$$\begin{array}{c|c|c} & 2x & -1 \\ \hline 2x & 4x^2 & -2x \\ \hline -1 & -2x & +1 \end{array} = \boxed{4x^2-4\ldots}$$

What steps do you take
to multiply polynomials?

7. $(n+1)(n^2+4x+5)$
         n

$$\begin{array}{c|c|c|c} & n^2 & +4n & +5 \\ \hline n & n^3 & +4n^2 & +5n \\ \hline +1 & +n^2 & +4n & +5 \end{array}$$

PROCESS POSTER

You will make a poster outlining the steps to multiply two polynomials. Your poster needs steps written <u>in words</u>, an example problem <u>solved</u>, and color.
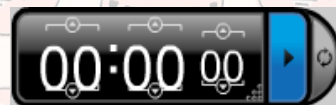
<u>If you sit at table 1, 2, or 3 use:</u> $4x^2\left(3x^3 + 5x^2 - 2\right)$

<u>If you sit at table 4 or 5 use:</u> $(x-3)(x+5)$

<u>If you sit at table 6 or 7 use:</u> $(x+1)(x^2 + 4x + 5)$

Your steps should work for any type of polynomial. This poster will be graded according to the rubric on the back of your paper.

Due at the end of the period.

00:00 00

TEST CORRECTIONS

<u>Quiz Averages</u>

2nd ~ 55

3rd ~ 46

4th ~ 61

5th ~ 53

The only way to "fix" this quiz grade is to do better on Friday's test. Come to tutorials to go over the quiz questions!

<u>New Policy!</u> In order to complete test corrections for Friday's test, you must have ALL of your homework turned in and have a completed review. This is true for every test.

#1-10

Practice – Multiplying Polynomials   **pp 490 – 499**

Name _____ Date _____ Period _____

Find the product in simplest form

1. $x(3x + 7)$

5. $3x^2y(8xy - 5x - 6)$

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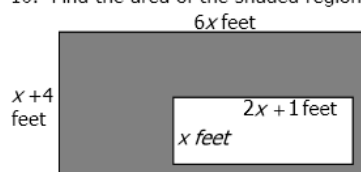
6. $(2x + 5y)(2x - 5y)$

3. $xy(2x - 3y - 4)$

7. $-3x(x^2 - 4x + 1) + 5x^2(2x + 3)$

4. $(x + 2)(x - 3)$

8. Find the area of a rectangle with a length of $(5x + 1)$ inches and a width of $(3x - 2)$ inches.

9. What is the perimeter of a square with a dimension of $(3x^2 + 1)$ feet?

10. Find the area of the shaded region in simplest form.

$6x$ feet

$x + 4$ feet

$2x + 1$ feet

x feet

HW HELP: MULTIPLYING POLYNOMIALS

I should see your work, whether it is distributing or the box. NO WORK = NO CREDIT!

1. $3x^2 + 7x$
2. $-12x^3 - 8x^2$
3. $2x^2y - 3xy^2 - 4xy$
4. $x^2 - x - 6$
5. $24x^3y^2 - 15x^3y - 18x^2y$
6. $4x^2 - 25y^2$
7. $7x^3 + 27x^2 - 3x$
8. $(15x^2 - 7x - 2)$ inches^2
9. $(12x^2 + 4)$ feet
10. $(4x^2 + 23x)$ feet^2

Area $_{big}$ - Area $_{small}$

General Help:

Name your polynomials to decide how big your box will be. When you multiply the sides, MULTIPLY coefficients and ADD exponents.

Area = length x width