

Today's Learning Goal(s):

Date: Feb. 7, 2017
(Every lesson)

By the end of the class, I will be able to:

a) multiply 2 or more polynomials.

2.2 Multiplying Polynomials

Warm up: Expand and simplify.

a) $3x(2x^2 - 4x + 2)$

$$= 6x^3 - 12x^2 + 6x$$

b) $3x(x-2) - 2x(3x-1)$

$$= 3x^2 - 6x - 6x^2 + 2x$$
$$= -3x^2 - 4x$$

Ex.1 Simplify the following in more than one way

(Remember to express answers using correct format)

a. $(4x - 2y)(3x + y)$ FOIL

$$= 12x^2 + 4xy - 6xy - 2y^2$$

$$= 12x^2 - 2xy - 2y^2$$

b. $(8x + 5)(-3x^2 + 4x - 2)$

$$= -24x^3 + 32x^2 - 16x - 15x^2 + 20x - 10$$

$$= -24x^3 + 17x^2 + 4x - 10$$

What if: $2x(x - 3)(3x + 5)$

List the steps of multiplying polynomials **using words**; **share**.

need all combinations (intro hand shakes), like variables/exponent laws, collect then descending order

Complete the following individually.

c. $(3x + 4)(2x - 1)(x + 2)$

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

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

$$= 6x^3 + 9x^2 - 6x + 8x^2 + 12x - 8$$

$$= 6x^3 + 17x^2 + 6x - 8$$

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

$$= x^3 - 2x^2 + 3x^2 - 6x - 4x + 8$$

$$= x^3 + x^2 - 10x + 8$$

Today's Homework Practice includes:

Sign and **RETURN** the cover sheet with email address PRINTED.

pp. 95-97 #1, (4 – 6)ac, 11 [15, 16]

$$\begin{aligned}
 & 2x(x-3)(3x+5) \\
 &= 2x(3x^2 + 5x - 9x - 15) \\
 &= 2x(3x^2 - 4x - 15) \\
 &= 6x^3 - 8x^2 - 30x
 \end{aligned}$$

$$\begin{aligned}
 & \frac{\overset{1}{\cancel{7}}}{\underset{2}{\cancel{22}}} \times \frac{5}{\underset{2}{\cancel{6}}} \times \frac{\overset{1}{\cancel{2}}}{\underset{1}{\cancel{3}}} \times \frac{\overset{1}{\cancel{11}}}{\underset{2}{\cancel{14}}} \times \frac{\overset{1}{\cancel{5}}}{\underset{1}{\cancel{4}}} \times \frac{\overset{1}{\cancel{9}}}{\underset{2}{\cancel{10}}} \\
 &= \frac{5}{8}
 \end{aligned}$$

$$6b) \frac{3x}{2} \cdot \frac{1}{5}x^3$$

$$= \frac{\cancel{3x}}{2} \times \frac{1}{\cancel{5}x^3} \quad \text{or}$$

$$= \frac{1 \cdot 1}{2 \cdot 5}x^0$$

$$= \frac{3x}{2} \times \frac{1}{5x^3}$$

$$= \frac{15x^{1-3}}{2}$$

$$= \frac{15}{2}x^{-2}$$

$$= \frac{15}{2} \left(\frac{1}{x^2} \right)$$

$$= \frac{15}{2x^2}$$