

Before we begin, are there any questions from last day's work?

(use slide 3 screens away)

Today's Learning Goal(s):

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

- a) use the distributive property to expand and simplify polynomial expressions.

3.4.1 Expand and Simplify Polynomial Expressions (Spring 2016)-s16.notebook

This is yesterday's homework...skip this page if no questions.

3. Solve. Factor and use the quadratic formula where needed.

a) $2x^4 - 20x^3 - 48x^2 = 0$

b) $2x^4 - 50x^2 = 0$

$$2x^2(x^2 - 25) = 0$$

$$2x^2(x - 5)(x + 5) = 0$$

$$\downarrow$$
$$x = 0, 5, -5$$

c) $16x^3 - 12x^2 - 18x = 0$

d) $x^3 - x^2 - 4x + 4 = 0$

e) $-4x^3 + 10x^2 - 2x = 0$

f) $x^4 + 4x^3 + 5x^2 = 0$

$$x^2(x^2 + 4x + 5) = 0$$

$$\downarrow$$
$$x = 0$$
$$a = 1 \quad b = 4 \quad c = 5$$
$$x = \frac{-4 \pm \sqrt{(4)^2 - 4(1)(5)}}{2(1)}$$
$$= \frac{-4 \pm \sqrt{-4}}{2}$$

↳ No Real Solutions.

g) $0 = x^4 + x^2$

h) $x^3 - 14 = 0$

3.4.1 Expand and Simplify Polynomial Expressions (Spring 2016)-s16.notebook

3.4.1: Expand and Simplify Polynomial Expressions

Date: Mar. 23/16

Ex. Find each product.

$$1) \quad 2(5x^2 - 7x - 8)$$

$$= 10x^2 - 14x - 16$$

$$2) \quad -8y(-6y^2 + 4y - 8)$$

$$= 48y^3 - 32y^2 + 64y$$

$$3) \quad (9a + 2b)(6a - 3b)$$

$$= 54a^2 - 27ab + 12ab - 6b^2$$

$$= 54a^2 - 15ab - 6b^2$$

$$4) \quad (-2x - 4)(2x^2 - 4x + 4)$$

$$= -4x^3 + 8x^2 - 8x - 8x^2 + 16x - 16$$

$$= -4x^3 + 8x - 16$$

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

$$= 8x^4 + 10x^3 + 12x^2 - 12x^3 - 15x^2 - 18x - 20x^2 - 25x - 30$$

$$= 8x^4 - 2x^3 - 23x^2 - 43x - 30$$

$$6) \quad (-x^2 + xy + 3y^2)(-2x^2 - 3xy - 2y^2)$$

$$= 2x^4 + 3x^3y + 2x^2y^2 - 2x^3y - 3x^2y^2 - 2xy^3 - 6x^2y^2 - 9xy^3 - 6y^4$$

$$= 2x^4 - 6y^4 + x^3y - 7x^2y^2 - 11xy^3$$