Algebra 2 5.1

Multiply, divide, and simplify monomials and power expressions* *Algebra 1 Ch. 8

Add, subtract, and multiply monomials*

Multiply polynomials*

simplify
degree (of a polynomial)
terms
like terms
distributive property
EWE
FOIL = FAIL

whiteboards
scramble square

KeyConcept Simplifying Monomials

A monomial expression is in simplified form when:

- there are no powers of powers,
- each base appears exactly once,
- all fractions are in simplest form, and
- there are no negative exponents. no zero exp.

Degree (of a term)

$$x^3 + x^2y^5 + n^3$$

Degree (of an expression)

Like terms...distributive property

GuidedPractice

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

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

$-2x^2 - 5x - 1$

3B. $(3x^2 - 6) + (-x + 1)$

Distributive property

GuidedPractice

Find each product.

4A. $\frac{4}{3}x^2(6x^2 + 9x - 12)$

$\frac{4}{3}x^2 \cdot 6x^2 + \frac{4}{3}x^2 \cdot 9x + \frac{4}{3}x^2 \cdot -12$

$8x^4 + 12x^3 - 16x^2$

4B. $-2a(-3a^2 - 11a + 20)$

$6a^3 + 22a^2 - 40a$

EWE

Example 6 Multiply Polynomials

Find $(n^2 + 4n - 6)(n + 2)$.

$n^2 + 4n - 6$

$n + 2$

GuidedPractice

Find each product.

6A. $(x^2 + 4x + 16)(x - 4)$

6B. $(2x^2 - 4x + 5)(3x - 1)$

Scramble squares

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

$(x-3)(n+5)(a+6)$

$(\quad)(a+6)$

$(x-3)^3 = (x-3)(x-3)(x-3)$

$(\quad)(x-3)$

Gema

$8u(2z)^3$

$8u \cdot 8z^3$

$\Rightarrow \begin{cases} 64uz^3 \\ 64z^3u \end{cases}$

$3x^4 + 3x^3 \ldots$