Algebra 1 8.1

Write polynomials in standard form

Add and subtract polynomials

monomial

polynomial

binomial

trinomial

degree (of a monomial)

degree (of a polynomial)

activ: algebra tiles
whiteboards
5 in a row

Monomial	Binomial	Trinomial
$5x$	$2x^2 + 7$	$x^3 - 10x + 1$

Degree	Name
0	constant
1	linear
2	quadratic
3	cubic

Polynomials are named based on their degree (exponents).and number of terms included

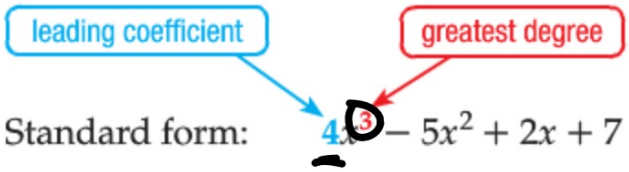
GuidedPractice

1A. x

1B. $-3y^2 - 2y + 4y - 1$

1C. $5rx + 7tuv$

1D. $10x^{-4} - 8x^a$


leading coefficient
greatest degree
Standard form:
$4x^3 - 5x^2 + 2x + 7$

GuidedPractice

2A. $8 - 2x^2 + 4x^4 - 3x$

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

2B. $y + 5y^3 - 2y^2 - 7y^6 + 10$

$-7y^6 + 5y^3 - 2y^2 + y + 10$

b. $(3y + 1y^3 - 5) + (4y^2 - 4y + 2y^3 + 8)$

$3y^3 + 4y^2 + -1y + 3$

Like terms - Same var + same exp

Activ: 5 in a row (if time)

Simplify

GuidedPractice

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

3B. $(4y^4 - 3y + 7) - (2y^3 + 2y - 2y^4 - 11)$

$-y^4 + 2y^3 + -y + -4$

Distributive property

Example 4 Subtract Polynomials

Find each difference.

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

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

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

$-x^2 + -6x + 8$

Danger!

b. $(7p + 4p^3 - 8) + 7(3p^2 + 2 - 9p)$

GuidedPractice

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

4B. $(8y - 10 + 5y^2) - (7 - y^3 + 12y)$

Ⓐ $(4x^3 - 3x^2 + 6x - 4) + -1(-2x^3 + x^2 - 2)$

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

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

Ⓑ $(8y - 10 + 5y^2) + -1(7 - y^3 + 12y)$

$8y - 10 + 5y^2 - 7 + y^3 - 12y$

$y^3 - 4y + 5y^2 + -17$

$y^3 + 5y^2 - 4y + -17$