Warm-Up!

- Identify each function as linear or quadratic.

1. $f(x) = 2x^2 + x - 6$

2. $f(x) = 5x + 3$

Algebra II CC Unit 3 section one

Polynomial Functions

Notes

Evaluating and Graphing Polynomial Functions

Degree	Type	Standard Form
		$f(x)=a_0$
		$f(x)=a_1x+a_0$
		$f(x)=a_2x^2+a_1x+a_0$
		$f(x)=a_3x^3+a_2x^2+a_1x+a_0$
		$f(x)=a_4x^4+a_3x^3+a_2x^2+a_1x+a_0$

Standard Form-

Leading Coefficient-

Constant Term-

Are the following polynomial functions? If so, write the function in standard form and state its degree, type, constant and leading coefficient.

1. $f(x)=\frac{1}{2}x^2-3x^4-7$

2. $f(x)=x^3+3^x$

3. $f(x)=6x^2+2x^{-1}+x$

4. $f(x)=-0.5x+\pi x^2-\sqrt{x}$

Working with Polynomials

- Add the polynomials
  $(3x^2 + 2x^2 - x - 7) + (x^3 - 10x^2 + 8)$

Working with polynomials

- Subtract the polynomials
  $(8x^3 - 3x^2 - 2x + 9) - (2x^3 + 6x^2 - x + 1)$

Working with Polynomials

- Multiply the Polynomials

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

You try

1. $(5x^2 + x - 7) + (-3x^2 - 6x - 1)$

2. $(3x^3 + 8x^2 - x - 5) - (5x^3 - x^2 + 17)$

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

Warm-Up!

- Perform the indicated operation

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

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

Practice

- Multiply the polynomials

$$(x^2 + x + 1)(x + 1)$$

Practice

- Multiply the polynomials
$$(2x^2 + 3x + 2)(x^2 - 2)$$

Practice

- Multiply the polynomials
$$(x^2 + 4x + 1)(2x^2 - x + 5)$$

Worksheet