#### **TOPIC: INTRO TO POLYNOMIALS**

• Polynomial: Algebraic expression where variables have only \_\_\_\_\_ number exponents (no negatives, no fractions)

■ Monomial: \_\_\_\_\_ term(s)

■ Binomial: \_\_\_\_\_ term(s)

 $6x^3 + 3x^2 + 5x$ 

■ Trinomial: \_\_\_\_\_ term(s)

EXAMPLE: Determine if the expression is a polynomial. If so, identify if it's a monomial, binomial, trinomial, or none.

(A)

$$\frac{3}{4}x + x^3$$

Whole number exp? □ Number of terms?

MONOMIAL BINOMIAL **TRINOMIAL** NONE

$$\frac{5}{y}$$

Whole number exp? □ Number of terms?

MONOMIAL **BINOMIAL TRINOMIAL** NONE

 $2x^3v^2$ 

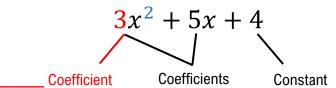
Whole number exp? □ Number of terms?

**MONOMIAL** BINOMIAL **TRINOMIAL** NONE

## Writing Polynomials in Standard Form

• Standard Form: Terms written in \_\_\_\_\_ order of exponents & all \_\_\_\_\_ terms combined

Degree: \_\_\_\_\_\_ exponent of variable in polynomial



EXAMPLE: Write each polynomial in standard form. Identify the degree & leading coefficient.

$$(A) \frac{1}{2}x + x^3$$

$$5x - 3x^2 + 2x - 7 + x^2$$

Descending order? 

Descending order? 

Like terms combined?  Like terms combined? 

Degree:

Degree:

**Leading Coefficient:** 

Leading Coefficient:

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## **Adding & Subtracting Polynomials**

• Like algebraic expressions, add/subtract polynomials by \_\_\_\_\_ like terms.

Algebraic Expressions (2x + 3) + (4x + 8)

EXAMPLE: Perform the given operation and simplify.

$$(5x^2 + 2x + 3) + (x^2 + 7x + 8)$$

# **Subtracting Polynomials**

Adding Polynomials
$$(5x^2 + 2x + 3) + (x^2 + 7x + 8)$$
Subtracting Polynomials
$$(3x^2 + 2x + 4) - (5x + 10 - x^2)$$

# Caution! Remember to distribute signs into parentheses!

PRACTICE: Perform the indicated operation.

$$(x^3 + 3x^2 - 7x) + 2(x^3 - 5x^2 + 9x + 4)$$

PRACTICE: Perform the indicated operation.

$$(-2x^4 + 10x^3 + 6x - 3) - (x^4 - 7x^2 + 8x + 5)$$