

9.1: Addition and Subtraction of Polynomials  
“I WILL ...  
Combine like terms of Polynomials.”

I. Names of Polynomials

- A. \_\_\_\_\_ is a number or a product of numbers and variables with whole number exponents
- B. \_\_\_\_\_ is a polynomial with two terms
- C. \_\_\_\_\_ is a polynomial with three terms is
- D. \_\_\_\_\_ is a monomial or the sum or difference of monomials.
- E. To define a polynomial, it must have \_\_\_\_\_ and \_\_\_\_\_ degrees.

II. Adding/Subtracting Polynomials

- A. Combine like terms when adding or subtracting polynomials
- B. Create a table/chart when simplifying polynomials (for the visual learners)

III. Model Problems

<p>Ex 1: State whether the expression is a monomial, <math>3x^4</math></p>	<p>Ex 2: State whether the expression is a monomial, <math>\frac{17}{\sqrt{x}}</math></p>	<p>Ex 3: State whether the expression is a monomial, <math>x\sqrt{5}</math></p>	<p>Your Turn: State whether the expression is a monomial, <math>\sqrt{5x}</math></p>
<p>Ex 4: Is <math>3 - 5x^2 + 4x</math> a polynomial? If so, write it in standard form and identify its degree, type, leading coefficient, and constant term.</p> <p>Polynomial? YES or NO</p> <p>Standard Form : _____</p> <p>Degree: _____ Type: _____</p> <p>Leading Coeff: _____ Cons: _____</p>		<p>Ex 5: Is <math>3 - (1/4)x^2</math> a polynomial? If so, write it in standard form and identify its degree, type, leading coefficient, and constant term.</p> <p>Polynomial? YES or NO</p> <p>Standard Form : _____</p> <p>Degree: _____ Type: _____</p> <p>Leading Coeff: _____ Cons: _____</p>	

<p>Ex 6: Is <math>3\sqrt{x} + \frac{5}{x} - 12</math> a polynomial? If so, write it in standard form and identify its degree, type, leading coefficient, and constant term. Polynomial? YES or NO</p> <p>Standard Form : _____ Degree: _____ Type: _____ Leading Coeff: _____ Cons: _____</p>		<p>Your Turn: Is <math>-3x + 7x^2 + 5</math> a polynomial? If so, write it in standard form and identify its degree, type, leading coefficient, and constant term. Polynomial? YES or NO</p> <p>Standard Form : _____ Degree: _____ Type: _____ Leading Coeff: _____ Cons: _____</p>
<p>Ex 7: Simplify <math>(x^2 - 5x + 6) + (3x^2 + 4x - 9)</math></p>	<p>Ex 8: Simplify <math>(2x^3 - 5x^2 + x) + (2x^2 + x^3 - 1)</math></p>	<p>Your Turn: Simplify <math>(-2x^2 + 3x - x^3) + (3x^2 + x^3 - 12)</math></p>
<p>Ex 9: Simplify <math>(x^2 - 5x + 6) - (3x^2 + 4x - 9)</math></p>	<p>Ex 10: Simplify <math>(2x^3 + 8x^2 - 6x) - (4x^4 + 2x^3 - x^2 + 1)</math></p>	<p>Your Turn: Simplify <math>(4x^2 - 3x + 5) - (3x^2 - x - 8)</math></p>