2.2: Adding/Subtracting Simple Polynomials

Warm-Up

Page 253 – Evaluate/Simplify:

4g) $-5\dfrac{2}{3}+6\dfrac{1}{2}-4\dfrac{5}{6}$

5i) $\left(\dfrac{-1}{4}\right)(x+8)\ when\ x=8$

8b) $x^8 \div x^3$

LIKE TERMS - Examples

These are terms that have the same variable and the same exponent.

1. Circle the like terms to 3 in the list $\quad 10,\ x^3,\ 3x,\ -x,\ 9,\ y,\ x^2,\ 14x,\ -100$

      Variable: _____   Exponent: _____

2. Circle the like terms to x in the list $\quad x^8,\ x^3,\ 3x,\ -x,\ 9,\ y,\ x^2,\ 14x$

      Variable: _____   Exponent: _____

3. Circle the like terms to x^2 in the list $\quad xy^2,\ x^3,\ 3x^2,\ -xy,\ 9x,\ y,\ x^2y,\ -14x^2$

      Variable: _____   Exponent: _____

4. Identify the LIKE TERMS: $\quad 5x,\ y,\ y^2,\ 6,\ 8x,\ -6y,\ -3,\ x^2$

NEW TERMS:

CONSTANTS: these are terms that have no variable.

VARIABLE TERMS: These are terms that have variables and coefficients.

COEFFICIENT: the number by which a variable is multiplied.

POLYNOMIAL: this is an algebraic expression that has one or more types of terms.

COEFFICIENTS – Example

Identify the coefficient of each term in the expression:

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

$$5x^2 = \underline{\quad}; \ -3x = \underline{\quad}; \ -6y = \underline{\quad}; \ y^2 = \underline{\quad}$$

NOTE: the subtraction sign (negative sign) stays with the coefficient.

POLYNOMIAL – Example

Label these with the right word: monomial, binomial, trinomial.

$$5x^2 + x \qquad\qquad 2x^2 - 3x + 1 \qquad\qquad 9y^2$$

Adding/Subtracting Simple Polynomials

When adding or subtracting simply polynomials, look for LIKE TERMS and combine their COEFFICIENTS.

Examples:

Simplify:

1. $5x + 3x$

2. $5x + 6 + 3x + 2$

3. $6y^2 - 2y^2$

4. $8y^2 - 6y + y^2 - 2y$

5. $-x^3y - 3x^2y - 3 + 2x^3 - 4x^2y + 6$

6. $\frac{1}{4}y^2 - \frac{2}{3}y + \frac{1}{3}y^2 - \frac{3}{4}y$

Homework: p.257 #1-3, A1, A2