6.1 Introduction to Polynomials

Term - product or quotient of numbers, variables or both

Constant - a term that has no variable
Ex: 8

Monomial - one term

Binomial - sum of two terms

Trinomial - sum of three terms

Polynomial - sum of any # of terms
many

Recall: Like terms - exactly the same variable and exponents
* same "last name"

Unlike terms - different variables and/or exponents

Add: $9x + 2x$
$(9+2)x$ ← distributive property
$11x$

Descending order - arranged with the highest exponent first and going down

Ascending order - smallest exponent to largest

Simplest form (standard form) - NO LIKE TERMS
- arranged in descending order
* If more than one variable ... arrange so the first letter alphabetically descends

degree of a monomial - is the exponent on variable
* If more than one variable
↳ add the exponents

degree of a polynomial - highest degree on any one monomial

Examples:

a. Put in simplest form.

b. Identify as a monomial, binomial, trinomial or polynomial.

c. What is the degree of the polynomial?

1. $3x^2 - 5x$
   a. $3x^2 - 5x$
   b. binomial
   c. 2

degree of each monomial

2. $6y^4 - 2y + 8$
   a. $6y^4 - 2y + 8$
   b. trinomial
   c. 4

3. $b + 4 - 2b^2$
   a. $-2b^2 + b + 4$
   b. trinomial
   c. 2

4. $5z^2 + x^2 - 3xz$
   a. $x^2 - 3xz + 5z^2$
   b. trinomial
   c. 2

5. $6m^5n^3$
   a. $6m^5n^3$
   b. monomial
   c. 8

6. $3xy + y^4 - x^2y^2 + x^3y^3$
   a. $x^3y^3 - x^2y^2 + 3xy + y^4$
   b. polynomial
   c. 6

7. $3x + 5y - 2y + 6x$
   a. $9x + 3y$
   b. binomial
   c. 1

8. $9d^2 + 3d - 7d - 8$
   a. $9d^2 - 4d - 8$
   b. trinomial
   c. 2

9. $7n + 2m - 10n - 9m$
   a. $-7m - 3n$
   b. binomial
   c. 1

10. $2 - a + a^2 + 4a^2 + 7a$
    a. $5a^2 + 6a + 2$
    b. trinomial
    c. 2

HOMEWORK

Worksheet - HW 6.1 Intro to Polynomials