Def: A **term** is a number and/or a variable raised to a power.

Note: A term may have more than one variables multiplied together where each is raised to a power.

Def: When all variables in a term are raised to a whole number power, the term is a **monomial**.

Ex: Show some examples of a monomial.

Ex: Show an example of term which is not a monomial.

Def: A **polynomial** is a monomial or the sum of monomials.

Def: A **polynomial in x** is a polynomial with only one variable, x.

Note: this variable can appear more than once, there just cannot be a second TYPE of variable anywhere.

Def: A Polynomial with two terms is called a binomial

Def: A polynomial with three terms is called a trinomial.

Note: more than three terms and it is called a polynomial.

Def: The **degree** of a monomial is the sum of the exponents of the variables.

Ex: Find the degree of the following monomials

Def: The number in front of the variable(s) of a monomial is called the **coefficient.**

Ex: for the 4 problems above, find the coefficient of each.

Def: The **leading term** of a polynomial is the term of highest degree.

Def: The coefficient of the leading term is called the **leading coefficient.**

Def: The **degree of a polynomial** is the same as the degree of its leading term.

Note: we call tell a term because it is always separated by a + or – sign.

Def: The term with a zero degree is called the **constant term.**

Ex: For each polynomial find the degree of the polynomial, the leading coefficient, the leading term, the coefficient of the 3rd degree term, and the 0th degree term.

Def: A ***polynomial function,,*** is a function in which ordered pairs, , are determined by evaluating a polynomial.

Ex: For the functions and

Find

Def: Two terms are called **similar or like terms** if they have the exact same variable(s) raised to exactly the same power(s).

## Adding Polynomials

When adding polynomials we combine all like terms. If two terms are not like, the can not be combined.

Ex: Add the polynomials:

1. (5.1.58)
2. (5.1.62)
3. (5.1.68)

## The opposite of a polynomial and Subtraction

Def: Two polynomials are **opposites** or **additive inverses** if when added they sum to zero.

Ex: are opposites since

Ex: so are opposites.

The opposite of a polynomial P can be written as –P, or equivalently by replacing each term with its opposite.

Ex: so has the additive inverse

Ex: Subtract the polynomials:

1. (5.1.78)
2. (5.1.82)
3. (5.1.88)