Name _____

Date _____ Period _____

Monomial

a number, a variable, or a product of a number and one or more variables

$$5 \qquad 2x^3y^4 \qquad -\frac{1}{2}s$$

all exponents on variables must be positive integers

Not monomials:

$$4x^{-2} \qquad\qquad 2\sqrt{x} \qquad\qquad -\frac{5}{x}$$

negative exponent   exponent $= \frac{1}{2}$ variable in denominator

negative exponent

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Coefficient:

Coefficient of a Monomial

The numerical factor of a monomial

Monomial
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$$5 \qquad 2x^3y^4 \qquad -\frac{1}{2}s$$

Degree:

Degree of a monomial

The sum of the exponents of the variables

Polynomial
a single monomial or the sum or difference of two or more monomials

$$5 \quad + \quad 2x^3y^4 \quad - \quad -\frac{1}{2}s$$

$-5t^4$	one single monomial
$2a^3 - 3$	combination of two monomials
$4x^2 - 6x + 1$	combination of three monomials
$x^2y^2 + 2x^2y + 8xy^2 - xy$	combination of four monomials

The Degree of a Polynomial
The degree of the monomial with the greatest degree.

$$5 \quad + \quad 2x^3y^4 \quad - \quad -\frac{1}{2}s$$

Standard Form of a Polynomial

A polynomial is in standard form when its terms are written in descending order by degree.

Leading
Coefficient   Degree of Polynomial

$$2x^4 + 2x^3 - 8x^2 - x + 5$$

Degree:

Coefficients:

Write the following polynomials in standard form, determine the number of terms, the degree and leading coefficient.

$x^3 + x - 2x^2 + 5x^4$ $\qquad\qquad$ $x - 6x^2 + 3$ $\qquad\qquad$ $x + 7x^3$