Algebra 1: 12.1 Guided Notes **Name _____ Period _____**
Adding and Subtracting Polynomials - Vocabulary

A **term** is _____

_____.

Examples: _____ _____ _____

A **coefficient** is _____.

$9x^3$ Coefficient: _____

$4x + 3$ Coefficient: _____

A **constant** is _____.

7 Constant: _____

$5x + 2$ Constant: _____

A **polynomial** is _____

_____.

A polynomial in one variable is of the form $a_1x^k + a_2x^{k-1} + \ldots a_nx^0$, where a_n is any real number and k is a *whole number exponent* (0, 1, 2, 3...).

Examples: _____ _____ _____

A polynomial consisting of ***1*** term is a _____.

A polynomial consisting of ***2*** terms is a _____.

A polynomial consisting of ***3*** terms is a _____.

The polynomial $m^3 + 8m^2 - 10m + 5$ has _____ terms.

1st term: _____ **Variable:** _____

Coefficient of m^2: _____ **Highest exponent:** _____

Constant: _____

Identify the terms and coefficients of each polynomial.

1. $-2x^2 + 100x$

   Terms: _____ **Coefficients:** _____

2. $x^2 + 4x + 3$

   Terms: _____ **Coefficients:** _____

3. $4m^3 - 2m^2 + 5$

   Terms: _____ **Coefficients:** _____

The **degree of a term** is _____.

$5x$ Degree: _____

4 Degree: _____

The **degree of a polynomial** is _____.

Example: $3x^4 - 2x^3 + 6x^2 - 7x + 9$ Degree: _____

A **polynomial written in standard form** means _____.

Example: $x^4 - 2x^3 + 4x^2 + 3x - 8$ ***Always write polynomials in standard form!***

Polynomial	Degree	Classification Using Degree	Number of Terms	Classification Using the Number of Terms
-6		Constant		
$125p$		Linear		
$-13s + 6$		Linear		
$-6x^2 + 4x$		Quadratic		
$4x^2 + 7x + 3$		Quadratic		
$2x^3$		Cubic		
$78j^3 - 3j$		Cubic		
$8x^4 - 2x^3 + 3x$		Fourth degree		

Exit Slip

Ali says that $3x^{-2} + 4x - 1$ is a polynomial of degree 1 because 1 is the greatest exponent and it is a trinomial because it has 3 terms. Luke disagrees and says that it is not a polynomial at all because the power of the 1st term is not a whole number. Who is correct? Why?

Describe why each expression is not a polynomial.

1. $\frac{4}{x}$

2. $\sqrt{x}$