2/11 Algebra I - Downing

Unit 6: Polynomials and Factoring

7.1A - Naming and Classifying Polynomials

Ex) $-3x^5$ — One Term — Monomial

$2x^4 + 7x$ — Two Terms — Binomial

$3x^5 - 4x^3 + 2$ — Three Terms — Trinomial

Polynomials - Monomials or the sum of monomials

The degree of a polynomial - is the highest exponent of a polynomial

Ex) $2x^{7} + 3x^{5} + 4$ — 7th Degree

Ex) $3x^{6} + 4x^{8} - 2x$ — 8th Degree

The Degree of a Monomial - is found by adding exponents of all variables together.

Ex) $-2x^{5}y^{2}$ — 7th Degree

Ex) $5x^{3}y^{1} + 2x^{1}y^{2}$ — 4th Degree

Standard Form of a Polynomial - exponents are arranged from highest to lowest.

Leading Coefficient - coefficient of first term when it is in standard form.

Classifying by Degree	By # of terms
0 - Constant	1 - Monomial
1 - Linear	2 - Binomial
2 - Quadratic	3 - Trinomial
3 - Cubic	4+ - Polynomial
4 - Quartic	
5 - Quintic	
6+ 6th Degree...	

Put the expression in standard form, classify by the degree and number of terms and identify the leading coefficient.

Ex) $4+5x^2-x \rightarrow 5x^2-x+4$ Name: Quadratic Trinomial LC: 5

Ex) $8x+8x^5 \rightarrow 8x^5+8x$ Name: Quintic Binomial LC: 8

Ex) $2x^3-4x+8 \rightarrow 2x^3-4x+8$ Name: Cubic Trinomial LC: 2

Ex) $7 \rightarrow 7 \rightarrow$ Name: Constant Monomial

Ex) $5x^3-x^4+x^2 \rightarrow -x^4+5x^3+x^2$ Name: Quartic Trinomial LC: -1

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