Algebra I

Notes Section 8.1

Add and Subtract Polynomials

Big Ideas

1. How to determine the degree of a polynomial.
2. How to classify a polynomial by the number of terms.
3. How to add and subtract polynomials.
4. How to write a polynomial in decreasing order.

VOCABULARY

Monomial: _____

_____

Binomial: _____

Trinomial: _____

Degree of a monomial: _____

Polynomial: _____

Degree of a polynomial: _____

Leading Coefficient: _____

EXAMPLE 1 Write in decreasing order. Identify the degree and leading coefficient.

a. $15x - x^3 + 3$ _____ _____ _____

b. $3b^3 + b^2 - 4b^4$ _____ _____ _____

EXAMPLE 2 Tell whether the expression is a polynomial. If it is a polynomial, find its degree and classify it by the number of its terms.

Expression	Polynomial	Classify by degree/ # of terms
a. 9		
b. $2x^2 + x - 5$		
c. $6n^4 - 8^n$		
d. $n^{-2} - 3$		
e. $7bc^3 + 4b^4c$		

EXAMPLE 3 Find the sum.

a. $(2x^3 - 5x^2 + x) + (2x^2 + x^3 - 1)$

b. $(3x^2 + x - 6) + (x^2 + 4x + 10)$

c. $(5x^3 + 4x - 2x) + (4x^2 + 3x^3 - 6)$

EXAMPLE 4 Find the difference.

a. $(4n^2 + 5) - (-2n^2 + 2n - 4)$

b. $(4x^2 - 3x + 5) - (3x^2 - x - 8)$

EXAMPLE 5 Major League Baseball teams are divided into two leagues. During the period 1995-2001, the attendance N and A (in thousands) at National and American League baseball games, respectively can be modeled by

$$N = -488t^2 = 5430t + 24{,}700$$

$$A = -318t^2 + 3040t + 25{,}600$$

where t is the number of years since 1995. About how many people attended Major League baseball games in 2001?