Section 5.1 Adding and Subtracting Polynomials

$7x^3 - 9x^2 + 13x - 6$ is a polynomial. The exponents on the x's are all whole numbers. The numbers in front of the x's are called coefficients. So the coefficients are 7, -9, 13, and -6. The highest power is called the degree and that term's coefficient is the leading coefficient. In our example the degree is 3 and the leading coefficient is 7.

A 2-termed polynomial is called a binomial

A 3-termed polynomial is called a trinomial

ex: $(-11x^3 + 7x^2 - 11x - 5) + (16x^3 - 3x^2 + 3x - 15)$

$$-11x^3 + 7x^2 - 11x - 5 + 16x^3 - 3x^2 + 3x - 15$$

$$5x^3 + 4x^2 - 8x - 20$$

Vertically:

$$\begin{array}{r} -11x^3 + 7x^2 - 11x - 5 \\ 16x^3 - 3x^2 + 3x - 15 \\ \hline 5x^3 + 4x^2 - 8x - 20 \end{array}$$

Subtracting Polynomials:

$$(9x^2 + 7x - 2) - (2x^2 - 4x - 6)$$

$$9x^2 + 7x - 2 - 2x^2 + 4x + 6$$

$$7x^2 + 11x + 4$$

$$A - B = A + (-B)$$

$$\begin{array}{r} 9x^2 + 7x - 2 \\ + \; -2x^2 + 4x + 6 \\ \hline 7x^2 + 11x + 4 \end{array}$$

p329-330 1, 3, 9, 17-27 odd, 55-65 odd