Algebra 1 | Tuesday 2-12-13 | Class Notes

Ch. 6-4 Adding and Subtracting Polynomials

Warning: which one of these, if any, are adding or subtracting polynomials?

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

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

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

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

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

Only <u>you</u> can read the problem carefully enough to see the difference between multiplying polynomials (which we will do soon) and adding or subtracting polynomials.

Before you add/subtract polynomials, you must know how to recognize "like" terms. You can only add or subtract "Like" things!

Like Terms — terms with the SAME variable or variables, and each variable has the same... EXPONENT.

(Ex) $3xy^2 + 2xy^2 = 5xy^2$

(Ex) $3xy + 2xy^2 = 3xy + 2xy^2$

(Ex) $3 + 4x = 3 + 4x$

(Ex) $2x - 3x^2y^2 + 5x - 9x^2y^2$

$= 7x - 12x^2y^2$

Adding / Subtracting Polynomials

see pg 415

Ex $(2x^2 - x) + (x^2 + 3x - 1)$

SAME AS $+1(2x^2 - x) + +1(x^2 + 3x - 1)$

$2x^2 - x + x^2 + 3x - 1$

NO CHANGES, A +1 IN FRONT OF THE GROUP IS A "get out of parentheses jail free" SO you can just drop the parentheses in both groups. Now combine "like" terms. Start on the left.

$2x^2 - x + x^2 + 3x - 1$

$3x^2 - x + 3x - 1$

$3x^2 + 2x - 1$ PUT IN STANDARD FORM

WARNING: A negative in front of a group (is really a -1) must be distributed to each member of group before dropping parentheses. It is NOT a "get out of parentheses jail free"

(Ex) $-(a^4-2a)-(3a^4-3a+1)$

get out free — NOT free!

$a^4-2a-1(3a^4-3a+1)$

$a^4-2a-3a^4+3a-1$

combine like terms

$-2a^4+1a-1$

$\boxed{-2a^4+a-1}$

Worksheet practice

(21) $(1-5x^2)-1(2-3x^2)$

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

$-1-2x^2$

$\boxed{-2x^2-1}$ quadratic binomial

↑

LEADING COEFFICIENT IS -2