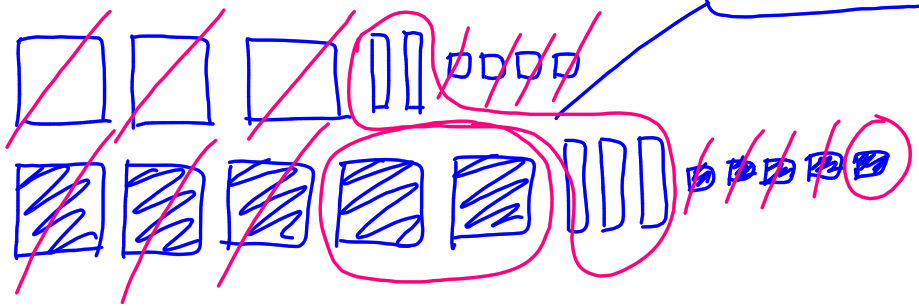
Math 9 Name: _____
Ch. 5 – Polynomials Block: _____

5.3 – Adding Polynomials

We can use algebra tiles to help us add polynomials.

$-2x^2+5x-1$

Ex. 1: $(3x^2 + 2x + 4) + (-5x^2 + 3x - 5)$



Can you see how to add them algebraically – in other words, without using algebra tiles? We simply add the coefficients of the like terms. We can set this up either horizontally or vertically.

Ex. 2: Add the following polynomials algebraically.

(a) $(-4x - 5) + (6 - 3x)$

Method 1 - Horizontally	Method 2 - Vertically
$(-4x-5)+(6-3x)$ $=-4x-5+6-3x$ $=-7x+1$	$-4x-5$ $+\ -3x+6$ $-7x+1$

(b) $(6 - 7d + d^2) + (6d - 6d^2 + 8)$

$=6-7d+1d^2+6d-6d^2+8$

$=-5d^2-1d+14$

(c) $(5w^4 + 7w^2 + 11w - 7) + (8w^4 - w^2 - 11w + 6)$

$= 5w^4 + 7w^2 + 11w - 7 + 8w^4 - 1w^2 - 11w + 6$

$= 13w^4 + 6w^2 - 1$

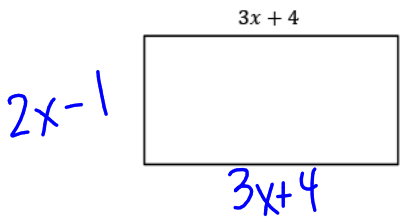
(d) $(2a^2 + a - 3b - 7ab + 3b^2) + (-4b^2 + 3ab + 6b - 5a + 5a^2)$

$= 2a^2 + 1a - 3b - 7ab + 3b^2 - 4b^2 + 3ab + 6b - 5a + 5a^2$

$= 7a^2 - 1b^2 - 4ab - 4a + 3b$

Ex. 3:

(a) Write a simplified polynomial for the perimeter of this rectangle:



$(3x+4) + (2x-1) + (3x+4) + (2x-1)$

$= 3x + 4 + 2x - 1 + 3x + 4 + 2x - 1$

$= 10x + 6$

(b) What is the perimeter if $x = 4$?

$10(4) + 6$

$= 46$

(c) What is the perimeter if $x = 20$?

$10(20) + 6 = 206$