Math 9 *Name:*_____

5.3 – Adding Polynomials *Date:* _____

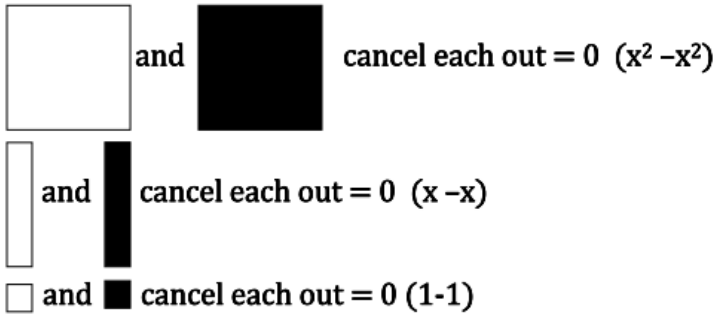
Recall

Two terms are **<u>like terms</u>** if they <u>both</u> have: i) the same **variable**,

<u>and</u> ii) the variables have the same **exponent**.

Two ***Algebra Tiles*** are considered "like" if they have the **same size**.

Zero Pairs always "cancel out":



Ex. 1: Add the following polynomials:

a. $\left(3x^2+2x+1\right)+\left(2x^2-x+2\right)$

Method 1: Using Algebra Tiles

Method 2: Algebraically

Remove brackets:

Group like terms:

Combine like terms by adding their coefficients:

b. $\left(k^2+4k+2\right)+\left(2k^2+k+3\right)$

c. $\left(6x+3\right)+\left(-3x+2\right)$

d. $\left(-p^2-5p+3\right)+\left(2p^2+3p-5\right)$

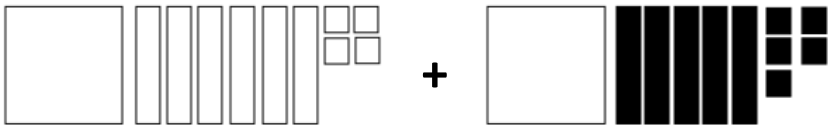
e. $\left(-3m^2-2m-4\right)+\left(3m^2+2m+4\right)$

Ex. 2: Add the following polynomials using <u>only</u> the algebraic method:

a. $\left(4x^2-2x+3\right)+\left(-2x^2+3x-5\right)$

b. $\left(-6c^2+5c-10\right)+\left(-7c^2-12c-11\right)$

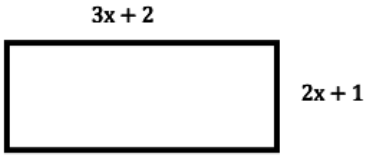
Ex. 3: Determine the algebraic form of the addition shown below:



Ex. 4: Add the polynomials and determine the numeric value for $f = -2$:

$$\left(3f^2 - f + 2\right) + \left(2f - 1\right)$$

Ex. 5: Write a polynomial, in simplified form, that represents the perimeter of the rectangle:



Determine the perimeter of the rectangle, if $x = 3$.