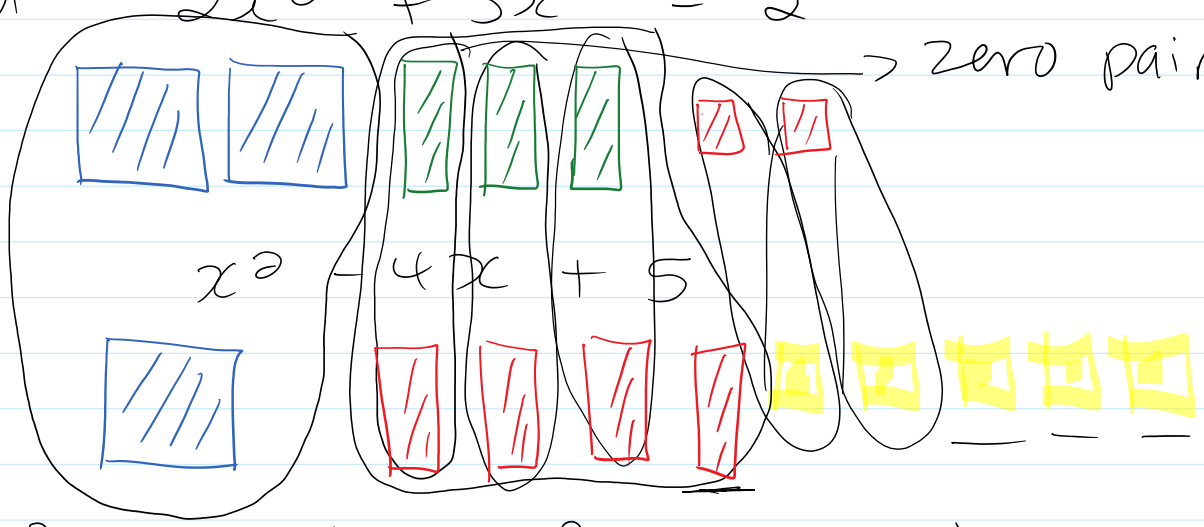
Adding + Subtracting Polynomials

Tuesday, October 15, 2019 9:57 AM

Build $2x^2 + 3x - 2$



Build $x^2 - 4x + 5$

$$(2x^2 + 3x - 2) + (x^2 - 4x + 5)$$

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

$$(2x^2 - 7x + 5) + (3x^2 + 4x - 7)$$

$$\begin{array}{r} 2x^2 - 7x + 5 \\ 3x^2 + 4x - 7 \\ \hline 5x^2 - 3x - 2 \end{array}$$

Simplify: $(5x^2 - 4x + 6) + (x^2 + 3x - 9)$

$$6x^2 - 7x - 3$$

Try: $(-2x^2 + 4x - 5) + (4x^2 - 7x - 3)$

$$= 2x^2 - 3x - 8$$

Like terms have the same variable and

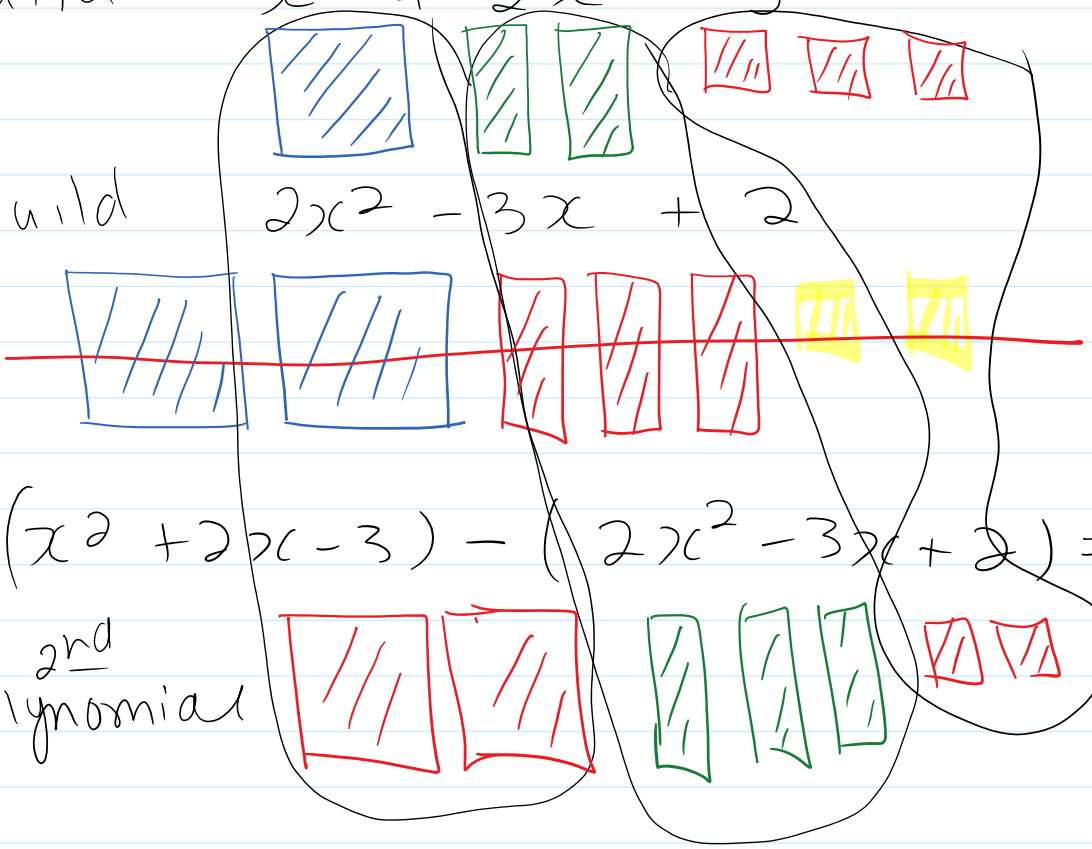
degree (i.e. raised to the same power)
eg $2x^2$, $3x^2$ are like terms
$3x^2$, $4x$ are not like terms...
You can only add or subtract like terms.

$-2-7 = -2 + -7 = -9$

add the opposite

Build $x^2 + 2x - 3$

Build $2x^2 - 3x + 2$



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

Flip 2nd polynomial

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

$= -x^2 + 5x - 5$

Try Simplify:

① $(x^2 + 6x - 4) + (-2x^2 + 2x + -3)$

$-x^2 + 8x - 7$

② $(2x^2 - 7x + 5) + (-6x + -2)$

$2x^2 - 13x + 3$