Algebra 1: 7.1 Add and Subtract Polynomials -Day 2 Guided Note

Adding and Subtracting polynomials is similar to adding and subtracting whole numbers , just like before adding whole numbers you align the digits as per the place value similarly in polynomials terms must be aligned with like terms.

Adding Polynomials: $(4x^2+2x-3)$ and $(3x^2+6)$

Method 1: Add Vertically

$$\begin{array}{r} 4x^2+2x-3 \\ +\ 3x^2\quad\ +6 \\ \hline 7x^2+2x+3 \end{array}$$

Method 2: Add Horizontally

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

$7x^2+2x+3$

Try it..... Simplify and write in standard form.

a.) $(3x^2+2x)+(-x+9)$

$3x^2+x+9$

b.) $(-2x^2+5x-7)+(3x+7)$

$-2x^2+8x$

Subtracting Polynomials: $(6x^2+3x-2)-(3x^2+5x-8)$

Subtract

Method 1: Add Vertically

$$\begin{array}{r} 6x^2+3x-2 \\ -\ 3x^2+5x-8 \\ \hline 3x^2-2x+6 \end{array}$$

Subtract

Method 2: Add Horizontally

$(6x^2+3x-2)-(3x^2+5x-8)$

optional→ $6x^2+3x-2-3x^2-5x+8$

$3x^2-2x+6$

Try it .... Simplify and write in standard form.

a.) $(3x^2-4x+2)-(-x+4)$

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

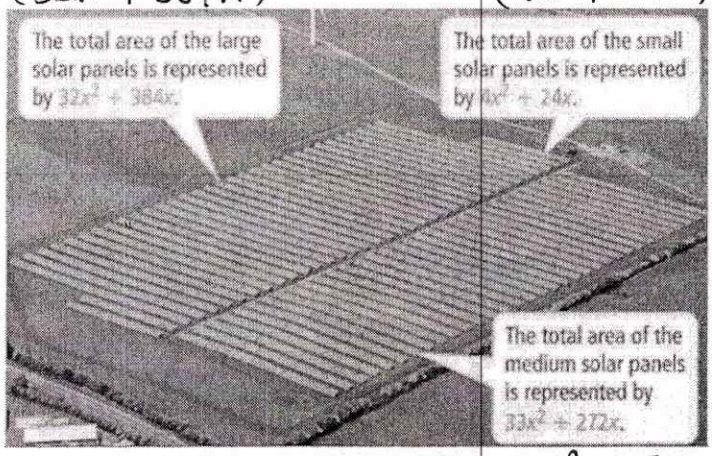
b.) $(-5x-6)-(4x^2+6)$

$$\begin{array}{r} -5x-6 \\ -\ 4x^2\quad -6 \\ \hline -4x^2-5x-12 \end{array}$$

Application

An engineer is reviewing the layout of a solar farm. The solar farm shown has 4 small panels, 33 medium panels, and 32 large panels. What is the total area of the farm's solar panels?

$(32x^2 + 384x)$ $(4x^2 + 24x)$



$(33x^2 + 272x)$

Total area = TA small panels + TA medium panel + TA large panel.

$= (4x^2 + 24x) + (33x^2 + 272x) + (32x^2 + 384x)$

$= 69x^2 + 680x$

Try it.....

What expression models the difference between the total area of the large solar panels and the total area of the small solar panels?

Total area of large solar panels = $32x^2 + 384x$

Difference between TA = TA Large panel − TA small

$= (32x^2 + 384x) - (4x^2 + 24x)$

$= 28x^2 + 360x$

HW: Pg. 265 #31 - #38, optional #39