4 Adding Polynomials

January 1, 2020 9:22 PM

Day 4

Different members of the same family placed the following orders. Simplify the orders by combining like items.

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$(2h + f) + (c + f + s) + (h + m + f) =$

$2h + f + c + f + s + h + m + f$

$3h + 3f + c + s + m$

$(x + c) + (2f + c + x) + (m + 2f + c) =$

$x + c + 2f + c + x + m + 2f + c$

$2x + 3c + 4f + m$

$(h + x + f) + (h + x + f) + (h + x + f) =$

$h + x + f + h + x + f + h + x + f$

$3h + 3x + 3f$

$(3h + m) + (2c + f + m) + (c + m + 2f) =$

$3h + m + 2c + f + m + c + m + 2f$

$3h + 3m + 3c + 3f$

$(4c + f + m) + (3h + f + m) - h + c =$

$(3h + 2f + x) + (c + f + m) - (h + m + f) =$

$(5h + 3f + 2m) - (h + f + m) + (c + 2x) =$

$(3h + f + x) + (h + f + m) - (h + f) + c =$

Like terms: $3x^2 + x^2$

but x^2 & x^1 are not like terms

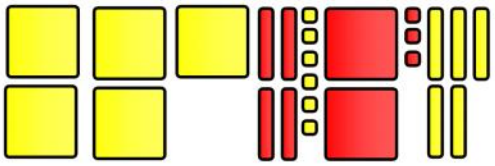
same variable + same exponent

Day 4

5.3 – Adding Polynomials

Focus: Use different Strategies to Add polynomials

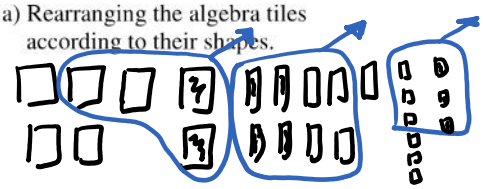
Recall:



$5x^2 - 4x + 6 - 2x^2 - 3 + 5x$

State the simplified polynomial by:

a) Rearranging the algebra tiles according to their shapes.



b) Removing zero pairs.

c) Drawing the remaining tiles.

Simplified Polynomial: $3x^2 + x + 3$

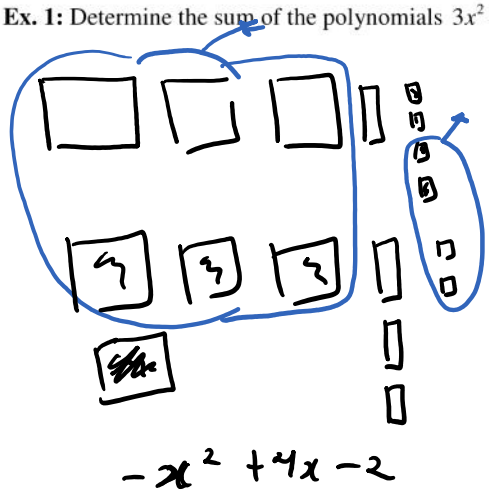
Adding Polynomials

When we write the sum of two polynomials, we write each polynomial in brackets.

To add polynomials, we can use a few different methods.

1) *Using Algebra Tiles* 2) *Combine like terms by adding their coefficients*

Ex. 1: Determine the sum of the polynomials $3x^2 + x - 4$ and $-4x^2 + 3x + 2$ using Algebra tiles.



$-x^2 + 4x - 2$

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

Steps: ① Remove brackets

$3x^2 + x - 4 - 4x^2 + 3x + 2$

② Collect like terms

$3x^2 - 4x + x + 3x - 4 + 2$

$-x^2 + 4x - 2$

Ex. 2: Add without using algebra tiles: $(8a-4)+(-12a^2-3a-13)$

(1) Remove brackets $8a-4+(-12a^2)-3a-13$

(2) Collect like terms $-12a^2+8a-3a-4-13$

(3) Add coefficients of like terms $-12a^2+5a-17$

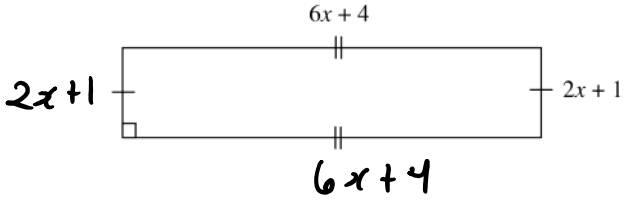
When Adding polynomials, we can add horizontally like above or we can also align the polynomials according to like terms and add vertically.

Ex. 3: Add $(3x^2-4x+5y-8xy+4y^2)+(-6y-8x+7x^2-4xy-3y^2)$

$$\begin{array}{r} 3x^2-4x+5y-8xy+4y^2 \\ 7x^2-8x-6y-4xy-3y^2 \\ \hline 10x^2-12x-y-12xy+y^2 \end{array}$$

distance around the edge

Ex. 4: Write the Perimeter of the rectangle as a simplified polynomial.



$6x+4$
$6x+4$
$2x+1$
$2x+1$

The perimeter is $16x+10$.

HW Assignment
Section 5.3 pg. 228 # 3, 5 – 7, 8 – 9 (aceg), 10a, 12, 14, 15ace, 16, 17