


Concept: Adding Expressions

Name: _____

COMPUTER COMPONENT

Instructions: In  follow the **Content Menu** path:

Algebra > Adding Expressions



Work through all Sub Lessons of the following Lessons **in order**:

- *Our Problem*
- *Adding Expressions With X and Y Tiles*
- *Adding Expressions With X Squared Tiles*
- *Adding Expressions Without Tiles*

Additional Required Materials: *Pencil, colored pencils, ruler*



As you work through the computer exercises, you will be prompted to make notes in your notebook/math journal.

OFF COMPUTER EXERCISES

1. Use tiles and their drawings to help you visualize the combining of expressions.

(a) Represent the expression $2x - 4$ by using tiles. Draw your tiles in the space to the right	
(b) Represent the expression $4x + 1$ by using tiles. Draw your tiles in the space to the right.	
(c) Re-draw your answers to (a) and (b) with <i>like</i> tiles gathered together.	
(d) What is the answer to $2x - 4 + 4x + 1$? ((in tiles)	
(e) Write the above answer as an expression.	

2. You may use tiles to help you answer the following questions. *Think:* How might you organize your equation to assist you in offering a more efficient response?

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

=

=

(b) $4x - 6x - 2 + 4$

=

=

(c) $3x - 4 + 5x + 5 + 4x - 5$

=

=

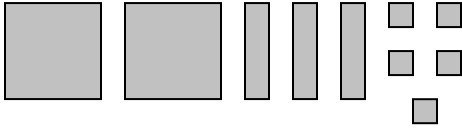

(d) $5 - 3x + 7x - 9$

=

=

3. Write the expression represented by the following tile representations.

Note: Consider a shaded tile to indicate positive, a non-shaded tile to indicate negative

	<u>Tile Representation</u>	<u>Algebraic Expression</u>
(a)		<hr style="border: 0; border-top: 1px solid black; width: 100%;"/>
(b)		<hr style="border: 0; border-top: 1px solid black; width: 100%;"/>

4. (a) Combine the tiles in 3(a) and 3(b). Draw the resulting tile representation.

(b) Find the sum of the two expressions in #3.

5. Demonstrate your superior knowledge and challenge yourself to simplify each expression, without using tiles.

Example: **$k + 5 + 3k - 6 - 2k$**

$$= k + 3k - 2k + 5 - 6 \quad (\text{Remember to rearrange and group like terms before finding the answer})$$

$$= 2k - 1$$

(a) $5 - 3x + 7x - 9$

$$=$$

$$=$$

(b) $-5x + 3y - 8x + 2y$

$$=$$

$$=$$

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

$$=$$

$$=$$

(d) $9h - 4h - 4h + 5h$

$$=$$

$$=$$

(e) $4x^2 - 6x + 3 + 4x^2 + 5x - 1$

$$=$$

$$=$$

(f) $3a^2 - 4 + 6a^2 - 6a + 3$

$$=$$

$$=$$

(g) $3x^2 - 4y^2 - 6 + 6x^2 - 4y^2 + 8$

$$=$$

$$=$$

(h) $-5x^2 + 6x - 2x^2 + 6 - 7 + 2x + 4x + 6x^2$

$$=$$

$$=$$

(i)
$$\begin{array}{r} 4x + 3y \\ + \\ 2x + 5y \\ \hline \end{array}$$

$$=$$

$$=$$

(j)
$$\begin{array}{r} 10y - 4z \\ + \\ 4y + 6z \\ \hline \end{array}$$

$$=$$

$$=$$

(k)
$$\begin{array}{r} 2a + 4b \\ + \\ -3z - 6b \\ \hline \end{array}$$

$$=$$

$$=$$

(l) $a^2 + 3b^2 - 2c^2 + 5b - 7a + 3c - 4b - 3a^2 - 10c^2 + 6b^2$

$$=$$

$$=$$