

## Homework 1.2.3

### Algebra Tile Modeling Practice

For each:

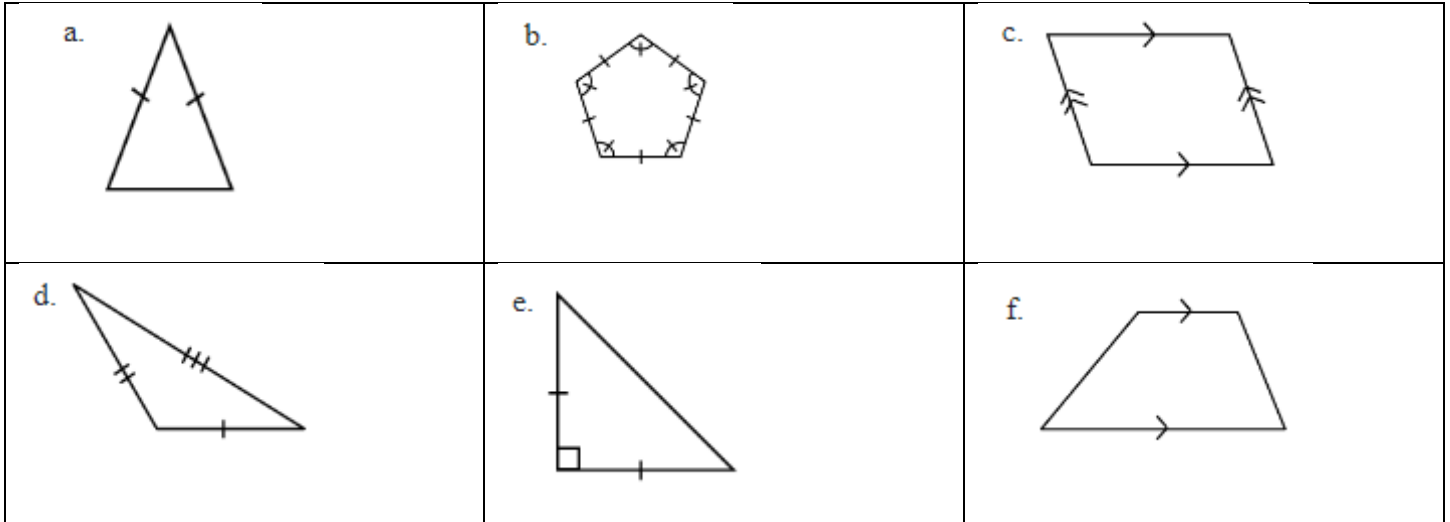
- a) Use your Algebra Tiles to create a Rectangle. Draw the rectangle  
 b) Write the product (length x width) from your rectangle  
 c) Write the equation: *expression as a sum = expression as a product*

<p>1) <math>x^2 + 5x + 6</math>                  a)</p>          <p>b)</p>          <p>c)</p>	<p>2) <math>2x^2 + 9x + 4</math>                  a)</p>          <p>b)</p>          <p>c)</p>
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3) Match each table of data on the left with its equation on the right and briefly explain why it matches the data.

<p>a.</p> <table border="1" style="margin-left: 20px; border-collapse: collapse; text-align: center;"> <tr><td><math>x</math></td><td>1</td><td>0</td><td>-4</td><td>2</td><td>-2</td><td>-1</td></tr> <tr><td><math>y</math></td><td>4</td><td>3</td><td>-1</td><td>5</td><td>1</td><td>2</td></tr> </table>          <p>b.</p> <table border="1" style="margin-left: 20px; border-collapse: collapse; text-align: center;"> <tr><td><math>x</math></td><td>-1</td><td>3</td><td>1</td><td>0</td><td>-2</td><td>2</td></tr> <tr><td><math>y</math></td><td>-1</td><td>-9</td><td>-1</td><td>0</td><td>-4</td><td>-4</td></tr> </table>          <p>c.</p> <table border="1" style="margin-left: 20px; border-collapse: collapse; text-align: center;"> <tr><td><math>x</math></td><td>3</td><td>-2</td><td>1</td><td>0</td><td>2</td><td>-3</td></tr> <tr><td><math>y</math></td><td>12</td><td>7</td><td>4</td><td>3</td><td>7</td><td>12</td></tr> </table>          <p>d.</p> <table border="1" style="margin-left: 20px; border-collapse: collapse; text-align: center;"> <tr><td><math>x</math></td><td>-3</td><td>4</td><td>2</td><td>-2</td><td>0</td><td>-10</td></tr> <tr><td><math>y</math></td><td>-10</td><td>11</td><td>5</td><td>-7</td><td>-1</td><td>-31</td></tr> </table>	$x$	1	0	-4	2	-2	-1	$y$	4	3	-1	5	1	2	$x$	-1	3	1	0	-2	2	$y$	-1	-9	-1	0	-4	-4	$x$	3	-2	1	0	2	-3	$y$	12	7	4	3	7	12	$x$	-3	4	2	-2	0	-10	$y$	-10	11	5	-7	-1	-31	<p>(1) <math>y = x</math></p> <p>(2) <math>y = 3x - 1</math></p> <p>(3) <math>y = x + 3</math></p> <p>(4) <math>y = x^2</math></p> <p>(5) <math>y = -x^2</math></p> <p>(6) <math>y = x^2 + 3</math></p>
$x$	1	0	-4	2	-2	-1																																																			
$y$	4	3	-1	5	1	2																																																			
$x$	-1	3	1	0	-2	2																																																			
$y$	-1	-9	-1	0	-4	-4																																																			
$x$	3	-2	1	0	2	-3																																																			
$y$	12	7	4	3	7	12																																																			
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4) Without referring to your Polygon Graphic Organizer, see if you can recall the names of each of the shapes below. How did you do? Check your answers on your Polygon Graphic Organizer.



5) Simplify the following expression by combining like terms:

$$6x^2 + 5x + 6 - 3 + 7x^2 - x$$

- a. A **term** is a single number, variable, or product of numbers and variables. How many terms are in the original expression? How many are in the simplified expression?
- b. When variable(s) are multiplied by a number, the number is called a **coefficient**. What is the coefficient of  $x$  in your simplified expression?