Chapter 4 Closure
Homework

Name __________________________ Date ___________ Period _____

Work through each of the problems below to practice the concepts from today’s lesson and review concepts from previous lessons. Then review AND FIX work your work using the answers provided in the online textbook. Be sure to always show all work!

CL 4-72. Examine the pattern below, and then complete parts (a) through (f) that follow.

a. On graph paper, sketch Figure 0 and Figure 4.

b. Make a table showing Figure 0 through Figure 4.

c. Write a rule to represent the pattern. ____________________
d. On graph paper, create a graph of the number of tiles in each figure.

[Graph paper image]

e. What is the growth for the pattern? _________________

f. Predict how many tiles Figure 100 will have. _________________

CL 4-73. Are the two expressions below equal? Show how you know.

\[ 4x^2 + 2x - 5 - 3x \quad \text{and} \quad 6x^2 - x + 3 - 2x^2 - 8 \]

CL 4-74. Examine the graph at right.

a. Give two ways you can tell that the rule \( y = 2x - 3 \) does not match the graph.

b. Make a graph that matches the rule \( y = 2x - 3 \).

c. Find a rule that represents the graph at right.
CL 4-75. Consider the rule \( y = 5x + 7 \).

a. How many tiles are in Figure 0? _______________

b. Which figure has 37 tiles? _______________

c. In the equation \( y = mx + b \), what do the letters \( m \) and \( b \) represent?

CL 4-76. Molly read 75 pages of the latest thriller mystery novel in 45 minutes. What is her unit rate? At the same rate, how long will it take her to read the entire 425-page novel?

CL 4-77. Solve this equation to find \( x \): \( 2 - (3x - 4) = 2x - 9 \).

CL 4-78. Simplify the following expressions, if possible.

a. \( x + 4x - 3 + 3x^2 - 2x \)  
   c. \( 3x^2 + 10y - 2y^2 + 4x -14 \)

b. \( 2x + 4y^2 - 6y^2 - 9 - x + 3x \)  
   d. \( 20 + 3xy - 4xy + y^2 + 10 - y^2 \)
CL 4-79. Copy and complete the table for the linear pattern below.

<table>
<thead>
<tr>
<th>IN (x)</th>
<th>−4</th>
<th>−3</th>
<th>−2</th>
<th>−1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUT (y)</td>
<td></td>
<td></td>
<td></td>
<td>−2</td>
<td>3</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. What is the $y$-intercept (figure 0)? What is the pattern of growth?

b. Find the rule for this line. __________________________

c. If the output number (y) is −52, what was the input number (x)?

CL 4-80. For the problem below, define a variable, write an equation, and solve it. Use the 5-D Process, if needed, to help you set up your equation.

For the school play, the advance tickets cost $3, while tickets at the door cost $5. Thirty more tickets were sold at door than in advance, and $2630 was collected. How many of each kind of ticket were sold? Write your answer in a sentence.