

Additional Practice *(continued)***Investigation 1****Say It With Symbols**

For Exercises 5–8, write two expressions that are equivalent to the given expression. Tell which property you used.

5. $7(x - 4)$

6. $x(5 - 6) + 13x - 10$

7. $2.5(8 - 2x) + 5(x + 1)$

8. $3(x + 10) - 3(2 - 4x)$

9. a. Complete the table below.

Expression	Value of the expression when...				
	$x = 1$	$x = 2$	$x = 5$	$x = 6.5$	$x = 27$
$3x + 6$					
$3(x + 2)$					
$3(x + 1) + 3$					

b. What patterns do you notice?

c. Are these expressions related?

d. How might you verify your answer to part (c)?

Additional Practice (continued)

Investigation 1

Say It With Symbols

For Exercises 10–12 complete parts (a)–(c).

- a. For each expression, write an equation of the form $y = \text{expression}$. Make a table and a graph of the two equations. Show x values from -5 to 5 on the graph.
 - b. Based on your table and graph, tell whether you think the two expressions are equivalent.
 - c. Use the properties you have learned to verify their equivalence or explain why you think they are not equivalent.
10. $4(x + 2)$ and $4x + 8$

Additional Practice (continued)

Say It With Symbols

14. All the expressions below contain the same string of symbols. Only the placement of the parentheses varies. Simplify each expression. Which, if any, of the expressions are equivalent?

a. $6 + 3x + 8 - 4x + 4$

b. $6 + 3(x + 8) - 4x + 4$

c. $(6 + 3x) + 8 - 4x + 4$

d. $6 + 3x + 8 - 4(x + 4)$

15. Use the Distributive and Commutative Properties to determine whether the following statements are equal for all values of x .

a. $3(x + 1) + x$ and $4x + 1$

b. $6x$ and $(12x - 4x) - 2x$

c. $6x$ and $12x - (4x - 2x)$

d. $7x + 5x + 1$ and $12x + 1$