▰▰ *Practice 2-3* *Simplifying Variable Expressions*

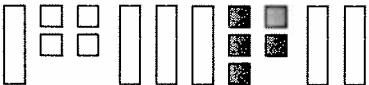**Simplify each expression.**

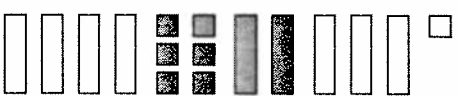**1.** $16 + 7y - 8$

2. $18m - 7 + 12m$

3. $5(3t) - 7(2t)$

_____

_____

_____

4. $2x - 9y + 7x + 20y$

5. $3(9k - 4) - 4(5n - 3)$

6. $6(g - h) - 6(g - h)$

_____

_____

_____

7. $-21(a + 2b) + 14a - 9b$

8. $-7a + 3(a - c) + 5c$

9. $-2(-5)q + (-72)(-q)$

_____

_____

_____

Name the coefficients, any like terms, and any constants.

	Coefficients	Like Terms	Constants
10. $3x + 7$	_____	_____	_____
11. $4m + (-3n) + n$	_____	_____	_____
12. $6kp + 9k + kp - 14$	_____	_____	_____
13. $-8y + 6ab + 7 - 3ba$	_____	_____	_____
14. $c + 2c + c - 5c + 1$	_____	_____	_____

Write an expression for each model. Simplify the expression.

15.

_____

16.

_____

Justify each step.

17. $5(n + 4) + 9n = (5n + 20) + 9n$ _____

$= 5n + (20 + 9n)$ _____

$= 5n + (9n + 20)$ _____

$= (5n + 9n) + 20$ _____

$= (5 + 9)n + 20$ _____

$= 14n + 20$ _____

2-3 • Guided Problem Solving

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GPS **Student Page 78, Exercise 32**

Pet Supplies Juan bought supplies for his new gecko. He bought four plants for p dollars each. He also bought a 10-gallon tank for $10 and a water dish for $3. Write an expression Juan could use to find the total cost of the supplies.

Read and Understand

1. What does the variable p represent? _____

2. How much did Juan spend on the 10-gallon tank? _____

3. How much did Juan spend on the water dish? _____

4. For what situation are you asked to write an expression? _____

_____

Plan and Solve

5. Write an expression to represent the
   amount Juan paid for the four plants. _____

6. Write an expression to represent the amount Juan paid in
   all for the plants, the 10-gallon tank, and the water dish. _____

7. Simplify the expression by
   combining like terms and any constants. _____

Look Back and Check

8. How do you know the expression is simplified? _____

_____

Solve Another Problem

9. Josie bought new school supplies. She bought three
   notebooks for n dollars each. She also bought a new
   calculator for $12 and a new pen for $2. Write an expression
   Josie could use to find the total cost of the school supplies. _____