Name: _____

3-6 Additional Practice

Leveled Practice In **1–10**, write equivalent expressions.

1. $5(m - 2) = \boxed{}\, m - \boxed{}$

2. $2\left(9p - \frac{1}{2}\right) = \boxed{}\, p - \boxed{}$

3. $6(8x + 1)$

4. $35x + 30$

5. $6\left(3y - \frac{1}{2}\right)$

6. $1.6 + (2z + 0.4)$

7. $8w - 16$

8. $2.2x + 2.2$

9. $100(z^2 - 5.38)$

10. $8 \cdot \left(y^3 \cdot \frac{3}{4}\right)$

In **11–14**, write the letter(s) of the expressions that are equivalent to the given expression.

11. $5x + 5$

   a. $10x + 5 - 5x$

   b. $10x$

   c. $5(x + 1)$

12. $12x - 10 - 6x$

   a. $6x - 10$

   b. $2(3x - 5)$

   c. $16x - 8 - 2$

13. $\frac{1}{2}x + 3 + \frac{1}{2}x$

   a. $\frac{1}{2}(x + 3)$

   b. $x + 3$

   c. $3x + 3 - x$

14. $3(3x - 1)$

   a. $6x - 2$

   b. $9x - 3$

   c. $15x + 6 - 6x - 3$

In **15** and **16**, use the sign at the right.

15. Model with Math Ms. Thomas ordered 5 pencil packs, n notebooks, and 5 sets of markers. Write an algebraic expression that represents the cost of Ms. Thomas's order. ©MP.4

Pencil Pack	$1.50
Notebook	$2
Markers	$2.50

16. Use Structure Use properties of operations to write an expression equivalent to the expression you wrote in Exercise 15. ©MP.7

In 17–19, use the sign at the right.

17. Write an algebraic expression that represents each purchase.

  a. Ms. Martinez bought x number of litter boxes and 8 bags of cat food for the animal shelter.

  b. Two sisters each bought 1 litter box, 10 cat toys, and x bags of cat food.

Cat Toy	$4
Cat Food	$12
Litter Box	$16

18. Make Sense and Persevere Suppose that x has the same value in both of the expressions you wrote in Exercise 17. Are the two expressions you wrote equivalent? Explain. © MP.1

19. Construct Arguments Which costs the most: 12 cat toys, 4 bags of cat food, or 3 litter boxes? Explain. © MP.3

20. Model with Math The formula for the perimeter of a rectangle is $2\ell + 2w$, where ℓ is the length and w is the width. How can you use the Distributive Property to write an equivalent expression for $2\ell + 2w$? © MP.4

21. Higher Order Thinking Explain why the expression you wrote in Exercise 20 may be easier to use than $2\ell + 2w$.

22. Critique Reasoning Zach says that the expressions $6x - 36$ and $3(2x - 12)$ are equivalent because of the Distributive Property. Do you agree? Explain. © MP.3

23. Are the two expressions shown below equivalent? Explain.

$4n + 6m - 12k$ and $2(2n + 3m - 6k)$

© **Assessment Practice**

24. Select each expression that is equivalent to $4\frac{1}{2} + \left(3t + 1\frac{1}{2}\right)$.

☐ $\left(4\frac{1}{2} + 3t\right) + 1\frac{1}{2}$

☐ $\left(4\frac{1}{2} + 1\frac{1}{2}\right) + 3t$

☐ $6 + 3t$

☐ $3(2 + t)$

☐ $9t$

25. Select each expression that is equivalent to $8x - 24$.

☐ $8(x - 3)$

☐ $8(x - 24)$

☐ $9(x - 3) - (x - 3)$

☐ $(5 + 3)x - 24$

☐ $16x$