

Name: \_\_\_\_\_



PRACTICE



TUTORIAL

# Practice & Problem Solving



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**Leveled Practice** In 11–20, write equivalent expressions.

11.  $3(m + 3) = \square m + \square$

12.  $20n - 4m = 4(\square n - \square m)$

13.  $3(x - 6)$

14.  $2x + 10$

15.  $8\left(2y + \frac{1}{4}\right)$

16.  $5.7 + (3z + 0.3)$

17.  $5w - 15$

18.  $2x + 4y$

19.  $10(y^2 + 2.45)$

20.  $\frac{3}{4} \cdot (z^3 \cdot 4)$

In 21–24, write the letters of the expressions that are equivalent to the given expression.

21.  $5(2x + 3)$

22.  $4x - 8$

23.  $12x - 16$

24.  $2\left(6x + \frac{1}{2}\right)$

a.  $10x + 15$

a.  $2(2x - 6)$

a.  $9.6x - 16 + 2.4x$

a.  $12x + 2$

b.  $5x + 15 + 5x$

b.  $2(2x - 4)$

b.  $3(3x - 5)$

b.  $12x + 1$

c.  $10x + 8$

c.  $x - 8 + 3x$

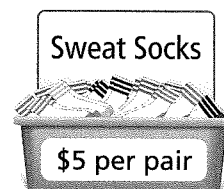
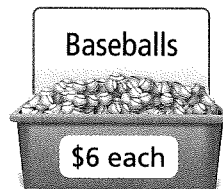
c.  $4(3x - 4)$

c.  $6x + \frac{1}{2} + 6x + \frac{1}{2}$

In 25–27, use the signs at the right.

25. Write an algebraic expression that represents each purchase.

a. Mr. Tonkery bought  $x$  number of soccer balls and 3 baseballs.



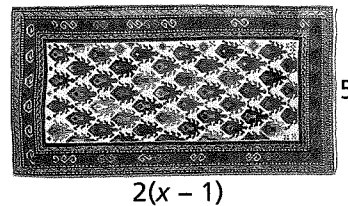
b. Dennis, Eddie, and Felix are on a baseball team. They each bought a baseball and  $x$  pairs of sweat socks.

26. **Make Sense and Persevere** Suppose  $x$  has the same value in both of the expressions you wrote for Exercise 25. Are the two expressions you wrote equivalent? Explain.

27. **Critique Reasoning** Wendy says that soccer balls cost  $2\frac{1}{2}$  times as much as baseballs. Do you agree? Explain.



28. **Use Structure** Write an algebraic expression to represent the area of the rectangular rug. Then use properties of operations to write an equivalent expression.



29. **Critique Reasoning** Jamie says that the expressions  $6x - 2x + 4$  and  $4(x + 1)$  are not equivalent because one expression has a term that is subtracted and the other does not. Do you agree? Explain.

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

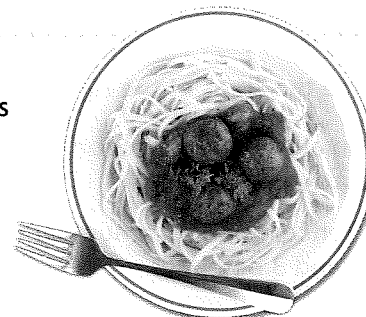
$$4(n + 3) - (3 + n) \text{ and } 3n + 9$$

31. **Critique Reasoning** Chris says that the expression  $4n - 2$  can be written as  $2(2n - 1)$ . Do you agree? Explain.

32. **Higher Order Thinking** Write an expression that has only one term and is equivalent to the expression below.

$$(f \cdot g^2) + 5 - (g^2 \cdot f)$$

33. **Construct Arguments** A sports team with 14 members is planning an awards banquet. To find the total cost of the meals, the team uses the expression  $5(g + 14)$ , where  $g$  is the number of guests attending the banquet. A team member says that an equivalent expression is  $5g + 14$ . Do you agree? Explain.



\$5 per meal

## Assessment Practice

34. Select each expression that is equivalent to  $8.5 + (2s + 0.5)$ .

- $(8.5 + 2s) + 0.5$   
  $(8.5 + 0.5) + 2s$   
  $9 + 2$   
  $2(4.5 + s)$   
  $8.5(2s + 0.5)$

35. Select each expression that is equivalent to  $5(n + 4)$ .

- $5n + 4$   
  $5n + 20$   
  $15 + 5n + 5$   
  $5(n + 3) + 5$   
  $5n + 54$

