Name _____

1-3 Additional Practice

Solving Equations with a Variable on Both Sides

Identify if no, one, or infinitely many solutions exist for each equation. If a solution exists, determine the value.

1. $4y - 7 + 2y = -3(y - 1) - 1$

2. $-(5a + 6) = 2(3a + 8)$

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

4. $14 + 3n = 8n - 3(n - 4)$

5. $6.8 - 4.2b = 5.6b - 3$

6. $\frac{1}{3} + \frac{2}{3}m = \frac{2}{3}m - \frac{2}{3}$

7. $\frac{1}{3}(t + 6) - 10 = -3t + 2$

8. $\frac{1}{2}r + 6 = 3 - 2r$

9. $0.5t + 0.25(t + 16) = 4 + 0.75t$

10. $2.5(2z + 5) = 5(z + 2.5)$

11. $-6(-p + 8) = -6p + 12$

12. $\frac{3}{8}f + \frac{1}{2} = 6(\frac{1}{16}f - 3)$

Solve each problem.

13. A square and a rectangle have the same perimeters. The length of a side of the square is $4x - 1$. The length of the rectangle is $2x + 2$ and the width is $2x$. Write and solve an equation to find x.

14. A movie club charges a one-time membership fee of $25. This allows members to purchase movies for $7 each. Another club does not charge a membership fee and sells movies for $12 each. How many movies must a member purchase for the total cost of the two clubs to be equal?

15. How many pounds of cashews that cost $14 per pound must be mixed with 5 pounds of peanuts that cost $6.50 per pound to make mixed nuts that cost $10.25 per pound?