3-4 **Practice** *Form G*
Solving Multi-Step Inequalities

Solve each inequality. Check your solutions.

1. $3f + 9 < 21$

2. $4n - 3 \geq 105$

3. $33y - 3 \leq 8$

4. $2 + 2p > -17$

5. $12 > 60 - 6r$

6. $-5 \leq 11 + 4j$

Solve each inequality.

7. $2(k + 4) - 3k \leq 14$

8. $3(4c - 5) - 2c > 0$

9. $15(j - 3) + 3j < 45$

10. $22 \geq 5(2y + 3) - 3y$

11. $-53 > -3(3z + 3) + 3z$

12. $20(d - 4) + 4d \leq 8$

13. $-x + 2 < 3x - 6$

14. $3v - 12 > 5v + 10$

Solve each inequality, if possible. If the inequality has no solution, write *no solution*. If the solutions are all real numbers, write *all real numbers*.

15. $6w + 5 > 2(3w + 3)$

16. $-5r + 15 \geq -5(r - 2)$

17. $-2(6 + s) < -16 + 2s$

18. $9 - 2x < 7 + 2(x - 3)$

19. $2(n - 3) \leq -13 + 2n$

20. $-3(w + 3) < 9 - 3w$

3-4

Practice (continued)   *Form G*

Solving Multi-Step Inequalities

21. A grandmother says her grandson is two years older than her granddaughter and that together, they are at least 12 years old. How old are her grandson and granddaughter?

22. A family decides to rent a boat for the day while on vacation. The boat's rental rate is $500 for the first two hours and $50 for each additional half hour. Suppose the family can spend $700 for the boat. What inequality represents the number of hours for which they can rent the boat?

23. Writing Suppose a friend is having difficulty solving $-1.75(q - 5) > 3(q + 2.5)$. Explain how to solve the inequality, showing all the necessary steps and identifying the properties you would use.

24. Open-Ended Write two different inequalities that you can solve by adding 2 to each side and then dividing each side by -12. Solve each inequality.

25. Reasoning a. Solve $3v - 5 \le 2v + 10$ by gathering the variable terms on the left side and the constant terms on the right side of the inequality.

   b. Solve $3v - 5 \le 2v + 10$ by gathering the constant terms on the left side and the variable terms on the right side of the inequality.

   c. Compare the results of parts (a) and (b).

   d. Which method do you prefer? Explain.