

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**
- Solve $3v - 5 \leq 2v + 10$ by gathering the variable terms on the left side and the constant terms on the right side of the inequality.
 - Solve $3v - 5 \leq 2v + 10$ by gathering the constant terms on the left side and the variable terms on the right side of the inequality.
 - Compare the results of parts (a) and (b).
 - Which method do you prefer? Explain.