NAME _____   **DATE** _____

Module 5 Solving Linear Inequalities of
One Variable
Lesson 4 Solving Multi-Step Linear Inequalities

**independent
practice**

Solve and graph.

1. $3x - 12 > 9x$ _____

2. $8x \leq -2x - 10$ _____

3. $-5x - 4 \geq -3x$ _____

4. $2x - 8 \geq -2x$ _____

5. $5x - 7 \geq -2x + 7$ _____

6. $-2x - 3 > -5x + 9$ _____

7. $8x - 9 \leq 5x + 3$ _____

8. $-7x - 27 \geq 2x + 9$ _____

9. $18 - 4x \geq 3 - x$ _____

10. $20 - 6x \leq 5x + 9$ _____

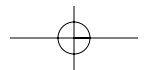**11.** $-(x - 12) \geq 5x$ _____

12. $7x \geq -3(x - 10)$ _____

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13. $4x - 2 \geq 10x + 16$ _____

14. $3x - 5x \geq 12 - 4$ _____

15. $-2(x - 7) + 1 \geq 3x$ _____

16. $5 - 2(x + 5) > 3 - 4x$ _____

17. $8 - 4x + 12 \geq 3x - 2(x - 5)$ _____

18. $2(x - 5) - 4 \geq 3x - 2 + 5x$ _____

19. $15 - (x - 9) \geq 3(x + 4) - 2x$ _____

20. $10(x - 4) - 2x < 4(x - 6) + 24$ _____

Journal

1. Solve and graph the solution set to the inequality $2x > 3 + 2x$. What is the solution set? Explain.

2. Solve and graph the solution set to the inequality $-6x - 4 < -2(3x - 8)$. What is the solution set? Explain.

3. Tina solved the inequality $4x - 6 > -2x + 6$ and got an answer of $x > 6$. To test her answer, she used the point $x = 10$, and found that the value satisfied the equation. Tina concluded that her answer was correct. Is she correct in this assumption? Explain.

4. For the inequality $3(x - 2) + 5 > x + 2$, show the solution one step at a time. For each step, describe what is being done to the inequality, and explain why. Be sure to use correct algebraic language.

5. Show that the inequality $4 - 2x > 3 - 4x$ is equivalent to the inequality $2x - 4 < 4x - 3$.

Cumulative Review

Simplify.

1. $-3 - (-4)$ _____

2. $5 \cdot -6^2$ _____

3. $[(4 - 6)^3]^2$ _____

4. $8 - (5 - 10)$ _____

Evaluate.

5. $3x - 4$ when $x = -6$ _____

6. $10 - 3x$ when $x = -1$ _____

7. $\frac{6x - 8}{4 - 2x}$ when $x = \frac{1}{2}$ _____

8. $\sqrt{\frac{-2x + 4}{x + 7}}$ when $x = -4$ _____

Solve for the given variable.

9. $C = 2\pi r$ for r

10. $SA = 2\pi r^2 + 2\pi rh$ for h

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