Check Your Understanding

= Step-by-Step Solutions begin on page R13.

Examples 1–2 Graph each inequality.

1. $y > x + 3$
2. $y \geq -8$
3. $x + y > 1$
4. $y \leq x - 6$
5. $y < 2x - 4$
6. $x - y \leq 4$

Example 3 Use a graph to solve each inequality.

7. $7x + 1 < 15$
8. $-3x - 2 \geq 11$
9. $3y - 5 \leq 34$
10. $4y - 21 > 1$

Example 4

11. **FINANCIAL LITERACY** The surf shop has a weekly overhead of $2300.

   a. Write an inequality to represent the number of skimboards and longboards the shop sells each week to make a profit.
   b. How many skimboards and longboards must the shop sell each week to make a profit?

Practice and Problem Solving

Extra Practice is on page R5.

Examples 1–2 Graph each inequality.

12. $y < x - 3$
13. $y > x + 12$
14. $y \geq 3x - 1$
15. $y \leq -4x + 12$
16. $6x + 3y > 12$
17. $2x + 2y < 18$
18. $5x + y > 10$
19. $2x + y < -3$
20. $-2x + y \geq -4$
21. $8x + y \leq 6$
22. $10x + 2y \leq 14$
23. $-24x + 8y \geq -48$

Example 3 Use a graph to solve each inequality.

24. $10x - 8 < 22$
25. $20x - 5 > 35$
26. $4y - 77 \geq 23$
27. $5y + 8 \leq 33$
28. $35x + 25 < 6$
29. $14x - 12 > -31$

Example 4

30. CCSS **MODELING** Sybrina is decorating her bedroom. She has $300 to spend on paint and bed linens. A gallon of paint costs $14, while a set of bed linens costs $60.
   a. Write an inequality for this situation.
   b. How many gallons of paint and bed linen sets can Sybrina buy and stay within her budget?

Use a graph to solve each inequality.

31. $3x + 2 < 0$
32. $4x - 1 > 3$
33. $-6x - 8 \geq -4$
34. $-5x + 1 < 3$
35. $-7x + 13 < 10$
36. $-4x - 4 \leq -6$

37. **SOCCER** The girls' soccer team wants to raise $2000 to buy new goals. How many of each item must they sell to buy the goals?

   a. Write an inequality that represents this situation.
   b. Graph this inequality.
   c. Make a table of values that shows at least five possible solutions.
   d. Plot the solutions from part c.