

# Practice 7-5

## Linear Inequalities

**Graph each linear inequality.**

- |                               |                               |                                |
|-------------------------------|-------------------------------|--------------------------------|
| 1. $y \geq -4$                | 2. $x + y < -2$               | 3. $y < x$                     |
| 4. $x > 2$                    | 5. $4x + y > -6$              | 6. $-3x + y \leq -3$           |
| 7. $x + 4y \leq 8$            | 8. $y > 2x + 6$               | 9. $y > -x + 2$                |
| 10. $2x + 3y < -9$            | 11. $y \leq \frac{3}{7}x + 2$ | 12. $4x + 2y < -8$             |
| 13. $y \leq \frac{3}{4}x + 1$ | 14. $x - y > 4$               | 15. $y \geq -\frac{2}{5}x - 2$ |

16. Suppose your class is raising money for the Red Cross. You make \$5 on each basket of fruit and \$3 on each box of cheese that you sell. How many items of each type must you sell to raise more than \$150?

- Write a linear inequality that describes the situation.
- Graph the inequality.
- Write two possible solutions to the problem.

17. Suppose you intend to spend no more than \$60 buying books. Hardback books cost \$12 and paperbacks cost \$5. How many books of each type can you buy?

- Write a linear inequality that describes the situation.
- Graph the inequality.
- Write two possible solutions to the problem.

18. Suppose that for your exercise program, you either walk 5 mi/d or ride your bicycle 10 mi/d. How many days will it take you to cover a distance of at least 150 mi?

- Write a linear inequality that describes the situation.
- Graph the inequality.
- Write two possible solutions to the problem.

**Graph each linear inequality.**

- |                               |                                |                                |
|-------------------------------|--------------------------------|--------------------------------|
| 19. $6x - 4y > -16$           | 20. $y \geq -\frac{1}{4}x - 3$ | 21. $-5x + 4y < -24$           |
| 22. $y < -5x + 6$             | 23. $6x - 4y < -12$            | 24. $y \geq -\frac{9}{5}x + 7$ |
| 25. $y > \frac{5}{7}x - 3$    | 26. $y < -5x + 9$              | 27. $-7x + 3y < -18$           |
| 28. $y \geq \frac{6}{5}x - 8$ | 29. $-12x + 8y < 56$           | 30. $16x + 6y > 36$            |