

Practice 7-5**Linear Inequalities****Graph each linear inequality.**

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|-------------------------------|-------------------------------|--------------------------------|
| 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.

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|-------------------------------|--------------------------------|--------------------------------|
| 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. $16x + 6y > 36$ |

Practice 7-6**Systems of Linear Inequalities**

Solve each system by graphing. Show your work.

1. $y < 6$
 $y > 3$
 2. $x < 7$
 $y > 2$
 3. $x < 2$
 $x > 5$
 4. $x + y > -2$
 $-x + y < 1$
 5. $x + y < 2$
 $x + y > 5$
 6. $y < -5x + 6$
 $y > 2x - 1$
 7. $y < 2x - 3$
 $-2x + y > 5$
 8. $-x + 3y < 12$
 $y \geq -x + 4$
 9. $y \leq -\frac{1}{2}x + 3$
 $y \geq -\frac{5}{3}x + 2$
 10. $y \geq \frac{3}{4}x + 1$
 $y \geq -\frac{2}{3}x - 1$
 11. $6x + 4y \geq 12$
 $-3x + 4y > 12$
 12. $3x + y < 6$
 $-2x + y < 6$
 13. $-4x + 2y < -2$
 $-2x + y > 3$
 14. $-5x + y > -2$
 $4x + y < 1$
 15. $y < \frac{9}{5}x - 8$
 $-9x + 5y > 25$
 16. $5x + 4y < 1$
 $8y \geq -10x + 24$
 17. $6x + 8y < 32$
 $-4x + 6y < 24$
 18. $x + 7y < 14$
 $x - 6y > -12$
19. In basketball you score 2 points for a field goal and 1 point for a free throw. Suppose that you have scored at least 3 points in every game this season, and have a season high score of 15 points in one game. How many field goals and free throws could you have made in any one game?
- a. Write a system of two inequalities that describes this situation.
 - b. Graph the system to show all possible solutions.
 - c. Write one possible solution to the problem.
20. Suppose you need to use at least \$1.00 worth of stamps to mail a package. You have as many \$.03 stamps as you need but only four \$.32 stamps. How many of each stamp can you use?
- a. Write a system of two inequalities that describes this situation.
 - b. Graph the system to show all possible solutions.
 - c. Write one possible solution to the problem.
21. A grandmother wants to spend at least \$40 but no more than \$60 on school clothes for her grandson. T-shirts sell for \$10 and pants sell for \$20. How many T-shirts and pants could she buy?
- a. Write a system of two inequalities that describes this situation.
 - b. Graph the system to show all possible solutions.
 - c. Write two possible solutions to the problem.