

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. $6x + 4y > 12$
 $-3x + 4y > 12$

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.