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?

    a. Write a linear inequality that describes the situation.

    b. Graph the inequality.

    c. 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?

    a. Write a linear inequality that describes the situation.

    b. Graph the inequality.

    c. 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?

    a. Write a linear inequality that describes the situation.

    b. Graph the inequality.

    c. 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. $16x + 6y > 36$