Sketch a graph of the linear inequalities.
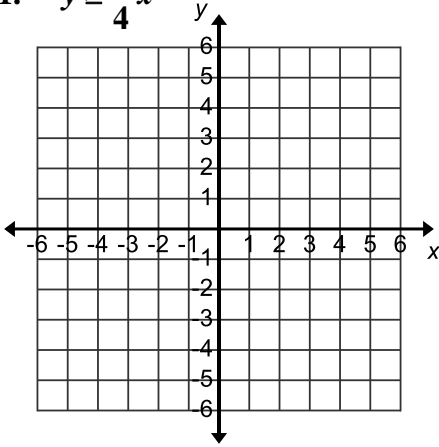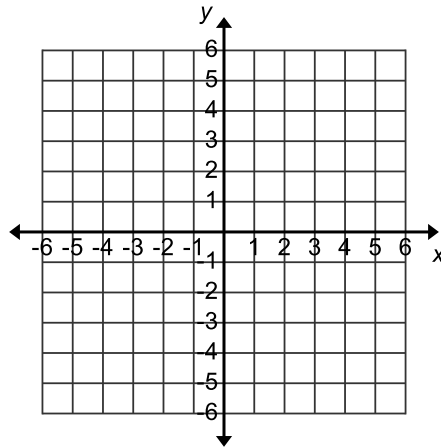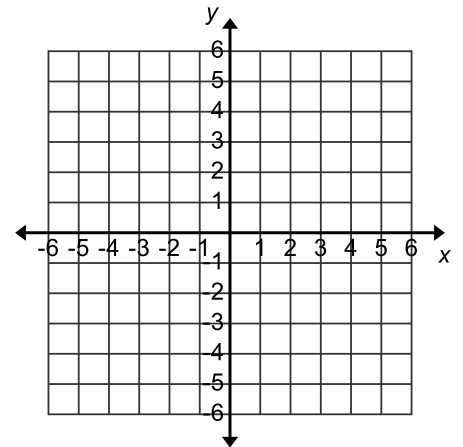
1. $y \geq \dfrac{3}{4}x$

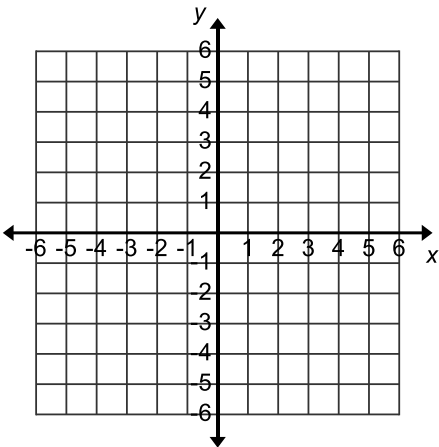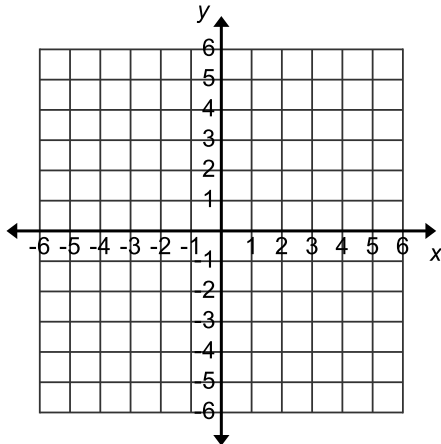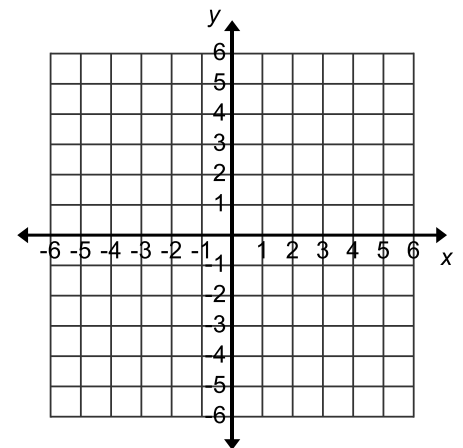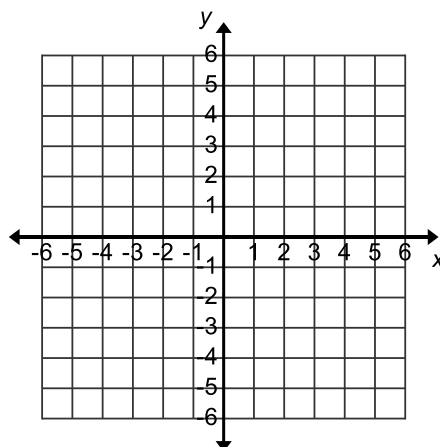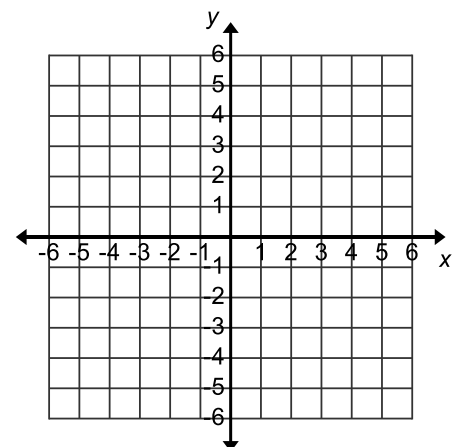2. $y > -3x + 4$

3. $y < 2x - 5$

4. $3x + y \leq 6$

5. $x \leq -2$

6. $y < 3$

7. $-2x - 4y \leq 16$
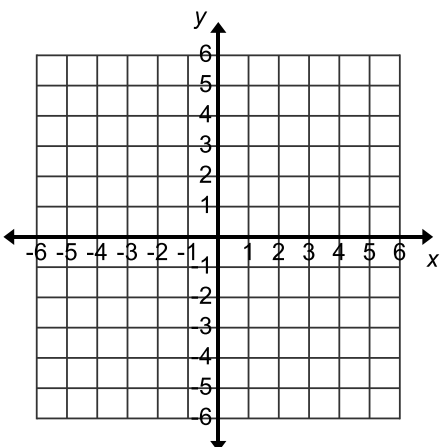
8. $-2x + 3y > -9$

9. $-6x + 2y < -4$

Solve and graph the inequalities.

10. $-5x > -15$
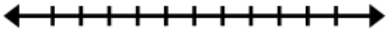
11. $x - 3 \le -4$
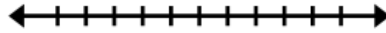
12. $3x + 8 < 3(x + 5)$
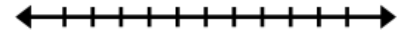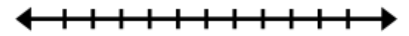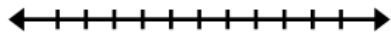
13. $-3(-1 - 3x) \ge -x + 13$
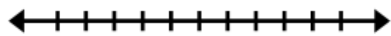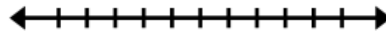
14. $x - 3 + 3x < -3 - 4x$
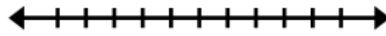
15. $2 + 4 - 4x \ge -10 + 2(1 - 3x)$

16. $-4h - 10 \ge 14$

17. $\dfrac{c}{5} - 10 \ge 3$

18. $3(b + 3) - 6 < 10 - 2b - 2$
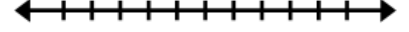
19. $3p + 2 \le 5p - 2$
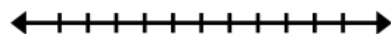
20. $-4(b + 2) < 1 - 4b - 10$

21. $\dfrac{x}{-3} - 8 > -1$
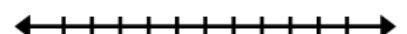
Solve and graph each inequality:

22. $n + 1 \leq -3$ *or* $-4n < -8$

←++++++++++++++→
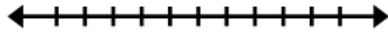
23. $\dfrac{k}{4} \geq 1$ *or* $\dfrac{k}{3} \leq -1$

←++++++++++++++→

24. $2 < 2x < 6$

←++++++++++++++→

25. $6 \leq x + 6 \leq 11$

←++++++++++++++→
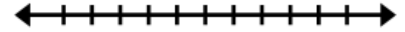
26. $-33 \leq -7n - 12 < -26$

←++++++++++++++→
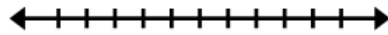
27. $9 - 2b > 7$ *or* $7 - 5b < -8$

←++++++++++++++→
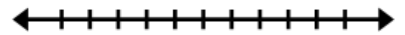
28. $12 + 4n > 44$ *or* $10 - 12n > -38$

←++++++++++++++→
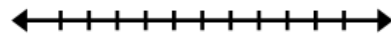
29. $36 \leq 11 - 5x \leq 66$

←++++++++++++++→
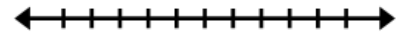
30. $-5x + 6 \geq -14$ *or* $1 + 9x < -44$

←++++++++++++++→
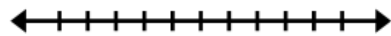
31. $-9x \leq 82$ *or* $6x - 1 > -7$

←++++++++++++++→
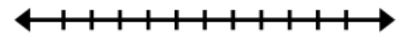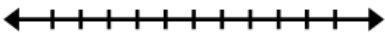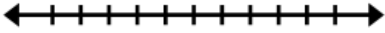
32. $2x + 10 < 30$ *or* $6x - 8 > 22$

←++++++++++++++→
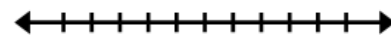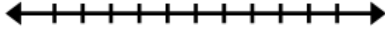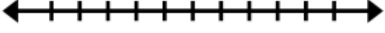
33. $-2x - 2 \leq -2$ *or* $4 - 3x \geq -26$

←++++++++++++++→
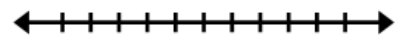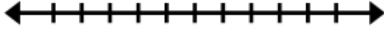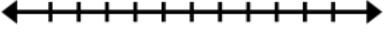
34. $\left|\dfrac{x}{6}\right| \geq 5$
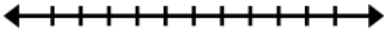
35. $\left|-6b\right| < 60$
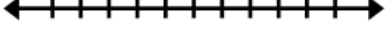
36. $\left|x+5\right| < 9$
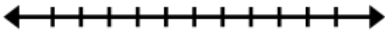
37. $\left|4x-9\right| \leq 27$
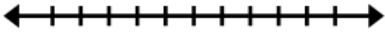
38. $\left|10+4x\right| < 14$
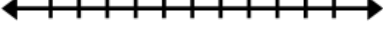
39. $\left|x-8\right|+10 > 22$
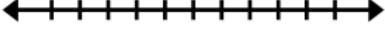
40. $-3+\left|x-2\right| > 5$

41. $\left|4x-7\right|+8 \geq 17$

42. $2\left|3x+1\right| < 10$

43. $-4\left|x-5\right| \geq -20$

44. $3\left|2x-5\right|+1 < 10$

45. $-2\left|x+7\right|+4 < -6$

True or False?

46. $(0, 3)$ is a solution to the inequality
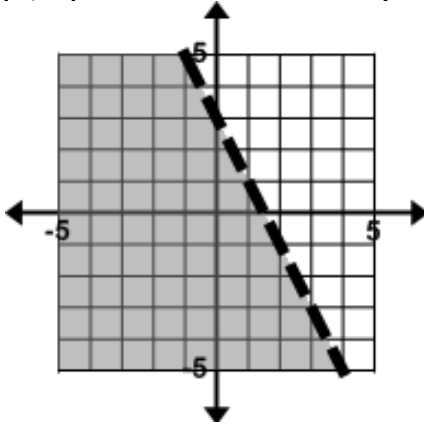
47. $(2, -3)$ is a solution to the inequality
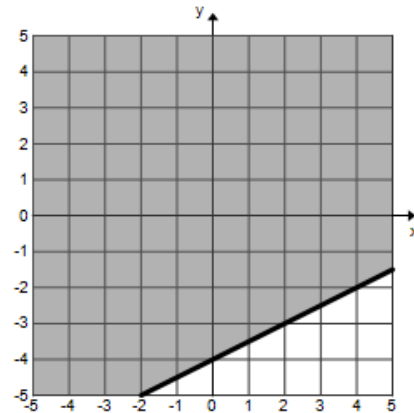
48. Josh is going on a trip to visit some friends from summer camp. He will use $40 for food and entertainment. He will also need money to cover the cost of gas. The price of gas at the time of his trip is $3.25 per gallon. Josh only has $170 for the trip. Fill in the blank below with the appropriate inequality ($<$, $>$, $\leq$, $\geq$) symbol to represent this situation.

$$3.25x + 40 \underline{\quad} 170$$

49. You are buying pizza for a party. Pepperoni pizza is $10 per pizza, and meat lovers pizza is $15 per pizza. You want to really impress people and want to spend more than $200. Fill in the blank below with the appropriate inequality ($<$, $>$, $\leq$, $\geq$) symbol to represent this situation.

$$10x + 15y \underline{\quad} 200$$

50. You are going to a Super Bowl party and was asked to bring soda and chips. The soda costs $3.50 per bottle and the chips are $2.50 a bag. If you only have $30 to spend, fill in the blank below with the appropriate inequality ($<$, $>$, $\leq$, $\geq$) symbol to represent this situation.

$$3.50x + 2.50y \underline{\quad} 30$$

51. Jose is going to an arcade that costs $5 to enter and $2 per game. If Jose only has a $50 bill, Fill in the blank below with the appropriate inequality ($<$, $>$, $\leq$, $\geq$) symbol to represent this situation.

$$2x + 5 \underline{\quad} 50$$

52. Sam is saving up for a car. His parents give him $300 and he is going save $60 a week. Write an inequality if he wants to have at least $4000 when he goes to buy the car.

53. You are making scrapbooks for your friends. Your mom already made 3 that you are going to use and you can make 2 a day. Write an inequality if you need more than 15 scrapbooks.

54. You work at a movie theater where child tickets are $4 each and adult tickets are $9. Write an inequality if your manager tells you that you need to sell at least $600 worth of tickets one night.