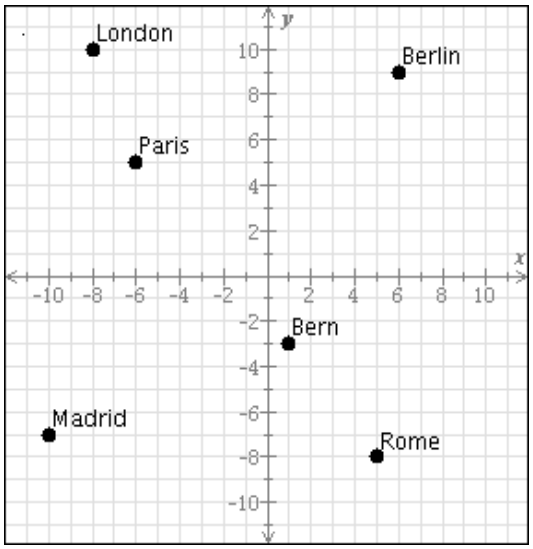
ALEKS® Math 193 Graphing Activity #3

Beginning Algebra / Math 100 – Master No Book (Prof. Miller)

Student Name/ID:

1. Give the location of London as an ordered pair (x, y)



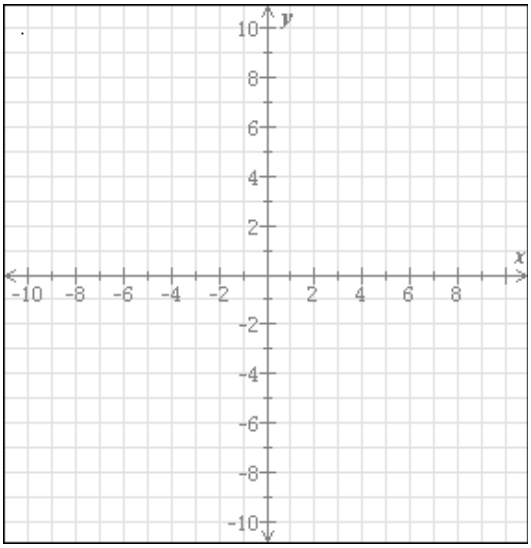
2. Consider the line $-5x - 7y = 4$

What is the slope of a line perpendicular to this line?

What is the slope of a line parallel to this line?

3. Graph the line.

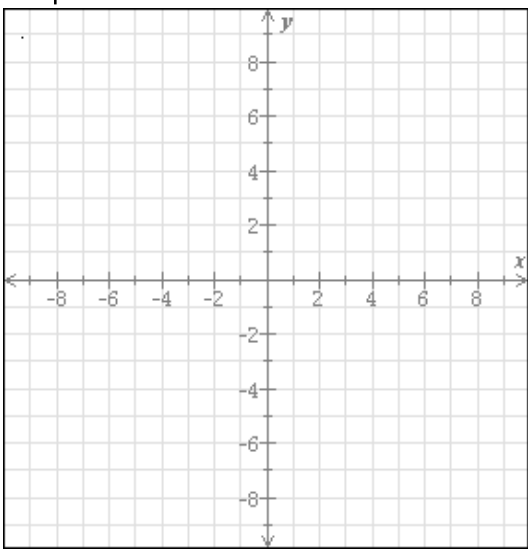
$$y=-\frac{1}{4}x+6$$



4. Find an ordered pair (x,y) that is a solution to the equation.

$$5x-y=5$$

5. Graph the line $x = -1$



6. Find the slope and the y-intercept of the line.

$y = 6x - 1$

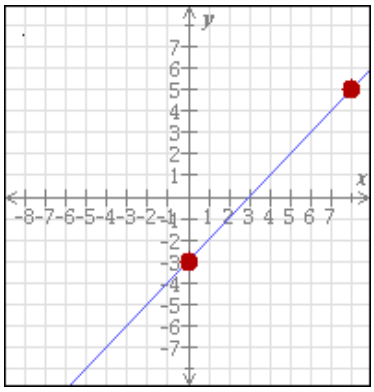
7. Find the slope of the line passing through the points $(-3, 3)$ and $(5, 9)$

8. Write equations for the horizontal and vertical lines passing through the point $(-7, 3)$

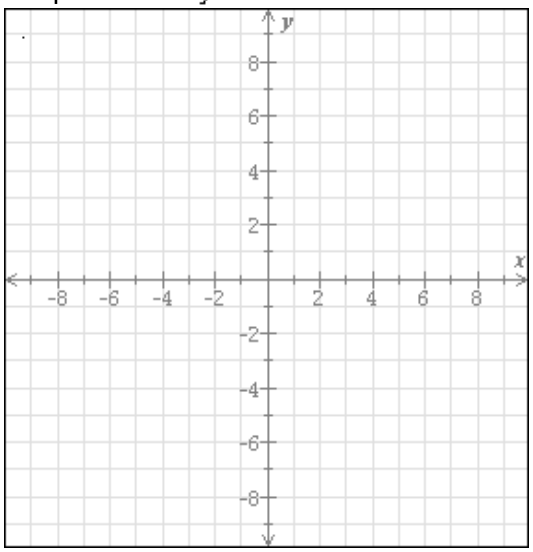
horizontal line:

vertical line:

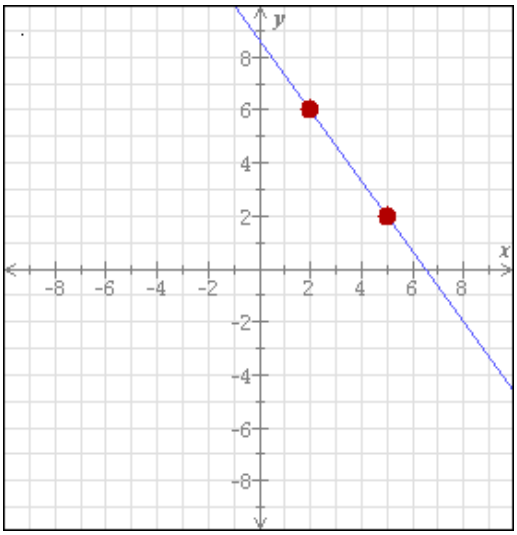
9. Write an equation of the line below.



10. Graph the line $y = 2$

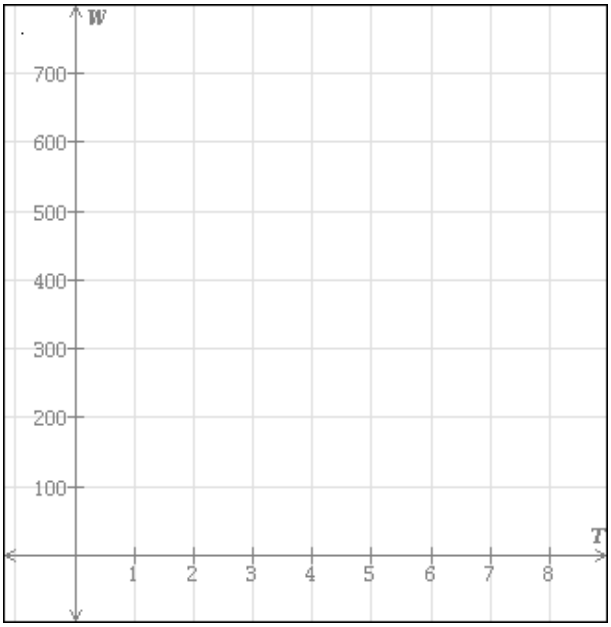


11. Find an equation for the line below.



12. Owners of a recreation area are filling a small pond with water. They are adding water at a rate of 30 liters per minute. There are 500 liters in the pond to start.

Let W represent the amount of water in the pond (in liters), and let T represent the number of minutes that water has been added. Write an equation relating W to T and then graph your equation using the axes below.



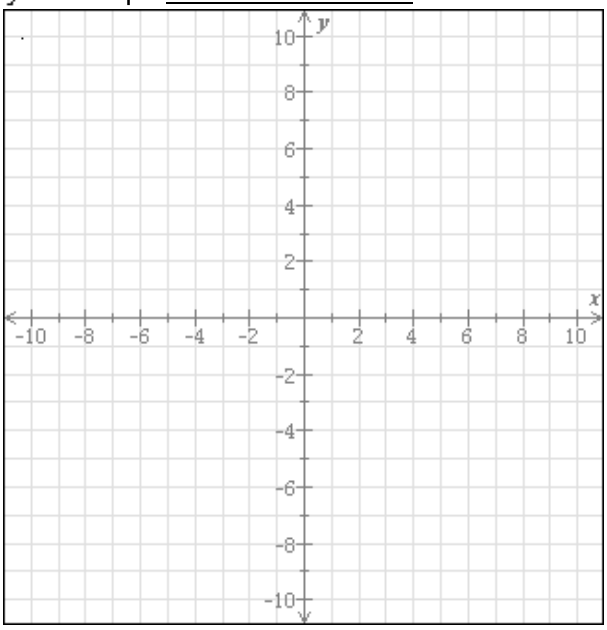
13. The equation of a line is given below.

$$-6x - 2y = -2$$

Find the slope and the y-intercept.
Then use them to graph the line.

slope: _____

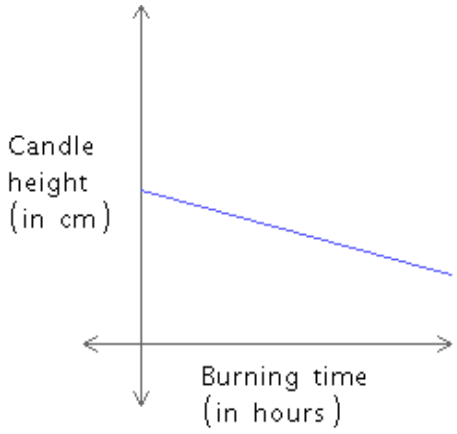
y-intercept: _____



14. Find the slope and the y-intercept of the line.

$$y = 3x - 9$$

15. Suppose that the height (in centimeters) of a candle is a linear function of the amount of time (in hours) it has been burning. After 6 hours of burning, a candle has a height of 19.2 centimeters. After 23 hours of burning, its height is 14.1 centimeters. What is the height of the candle after 11 hours?

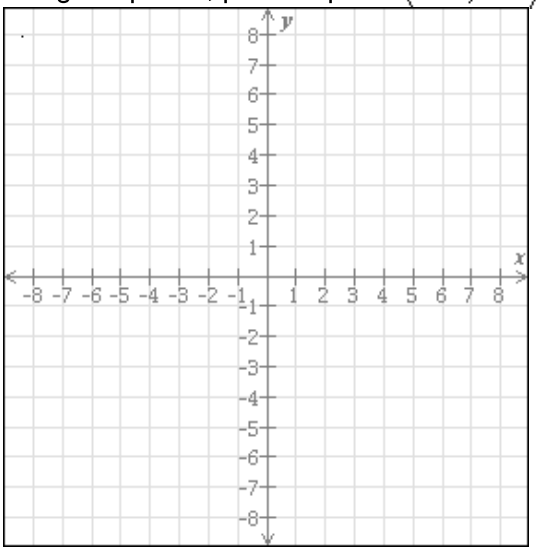


16. Find the slope and the y-intercept of the line.

$$7x-2y=-2$$

Write your answers in simplest form.

17. Using the pencil, plot the point $(-5,-3)$



18. Find the x-intercept and y-intercept of the line.

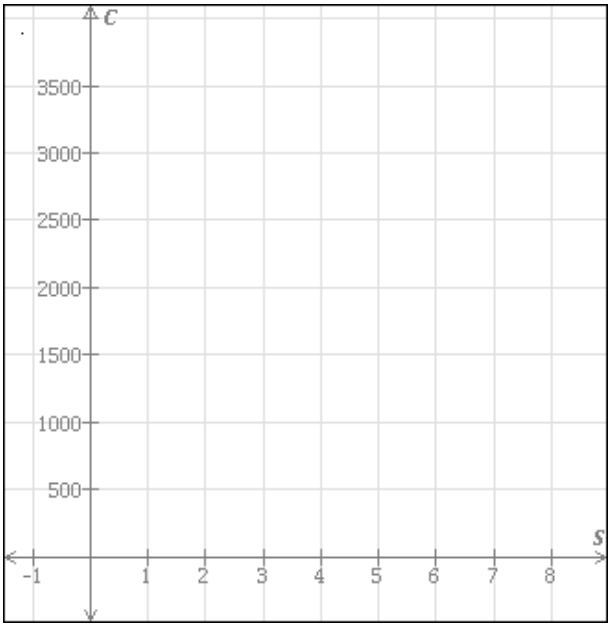
$3x-6y=-10$

x-intercept: _____

y-intercept: _____

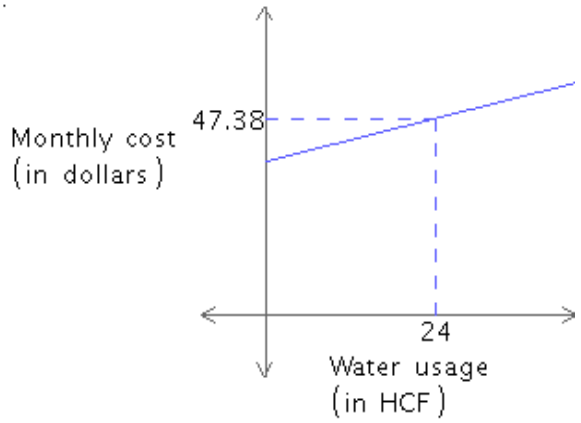
19. The Sugar Sweet Company is going to transport its sugar to market. It will cost $\$2800$ to rent trucks, and it will cost an additional $\$100$ for each ton of sugar transported.

Let C represent the total cost (in dollars), and let S represent the amount of sugar (in tons) transported. Write an equation relating C to S and then graph your equation using the axes below.

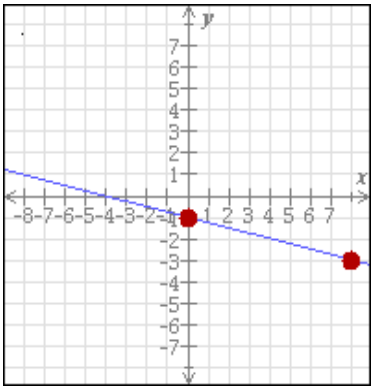


20. Suppose that a household's monthly water bill (in dollars) is a linear function of the amount of water the household uses (in hundreds of cubic feet, HCF). When graphed, the function gives a line with a slope of 1.65 See the figure below.

If the monthly cost for 24 HCF is $\$47.38$ what is the monthly cost for 27 HCF?



21. Write an equation of the line below.



22.
A line passes through the point $(-4, -6)$ and has a slope of $\frac{5}{2}$

Write an equation in slope-intercept form for this line.

23. Consider the line $7x - 3y = 4$

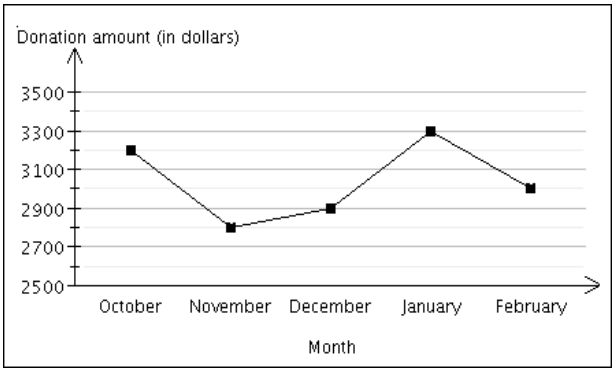
What is the slope of a line parallel to this line?

What is the slope of a line perpendicular to this line?

24. A line passes through the point $(-8, 4)$ and has a slope of $-\frac{3}{2}$

Write an equation in slope-intercept form for this line.

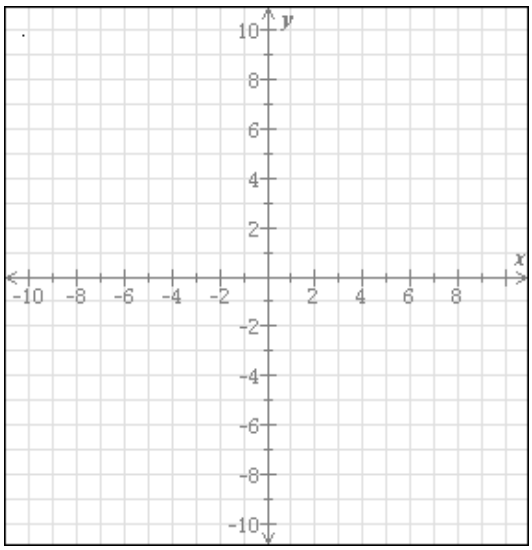
25. The graph below shows how much money was given to a charity over five months.



(a) What was the least donation amount in a month?

(b) When did the greatest increase in donations occur?

26. Graph the line whose x-intercept is 4 and whose y-intercept is -3

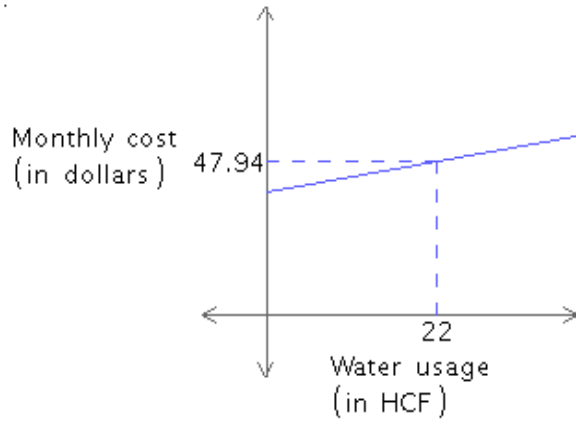


27. Find an ordered pair (x, y) that is a solution to the equation.

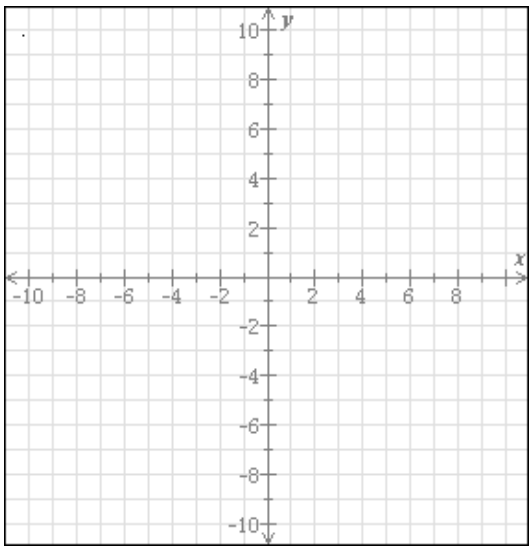
$$4x+y=3$$

28. Suppose that a household's monthly water bill (in dollars) is a linear function of the amount of water the household uses (in hundreds of cubic feet, HCF). When graphed, the function gives a line with a slope of 1.55 See the figure below.

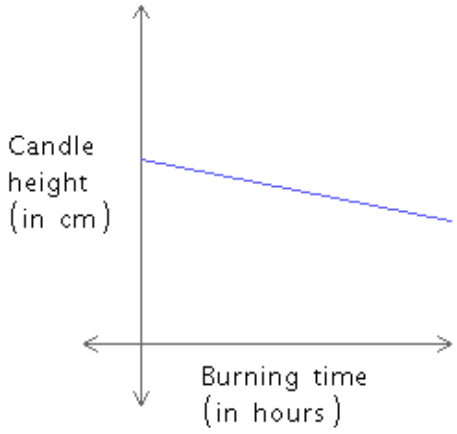
If the monthly cost for 22 HCF is $\$47.94$ what is the monthly cost for 18 HCF?



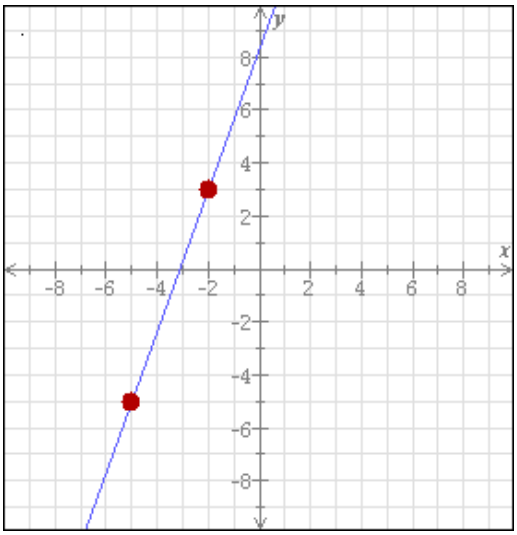
29. Graph the line whose y-intercept is 8 and whose x-intercept is -5



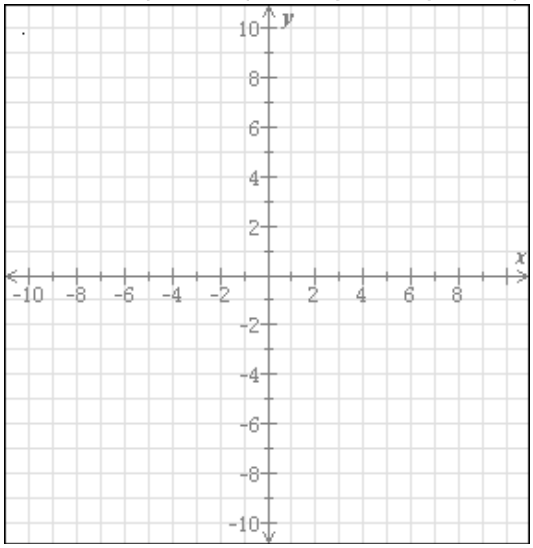
30. Suppose that the height (in centimeters) of a candle is a linear function of the amount of time (in hours) it has been burning. After 13 hours of burning, a candle has a height of 20.5 centimeters. After 27 hours of burning, its height is 13.5 centimeters. What is the height of the candle after 16 hours?



31. Find an equation for the line below.



32. Graph the line with slope -1 passing through the point $(3,-2)$



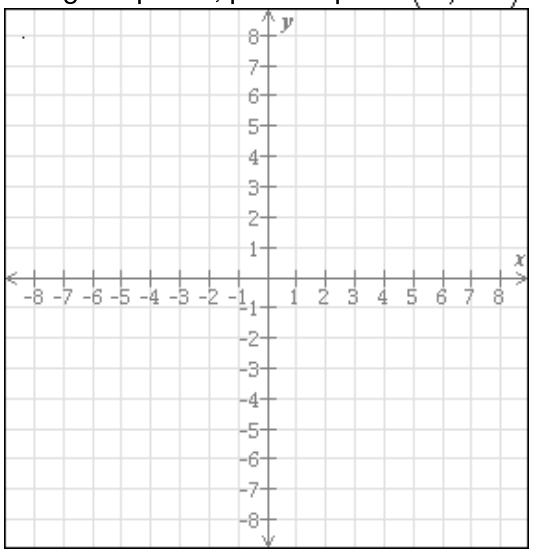
33. Find the x-intercept and y-intercept of the line.

$$6x - 7y = -9$$

x-intercept: _____

y-intercept: _____

34. Using the pencil, plot the point $(2, -2)$

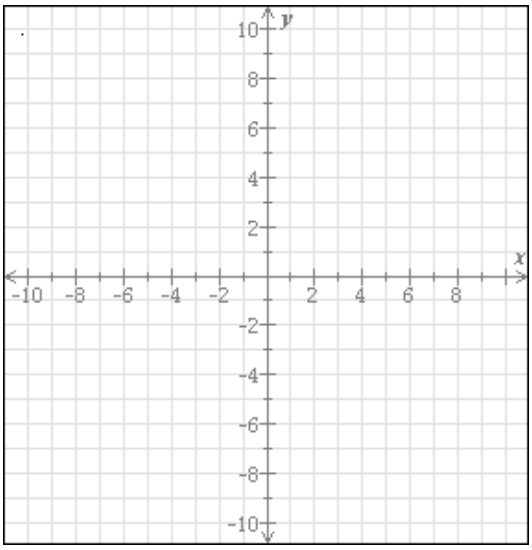


35. Consider the line $y = \frac{3}{4}x + 7$

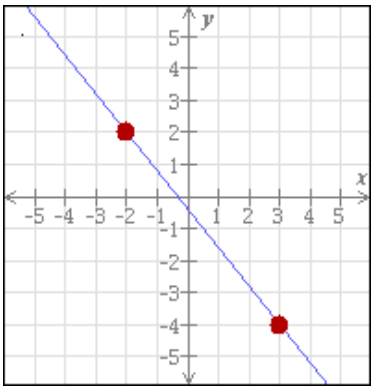
(a) Find the equation of the line that is parallel to this line and passes through the point $(-8, 5)$

(b) Find the equation of the line that is perpendicular to this line and passes through the point $(-8, 5)$

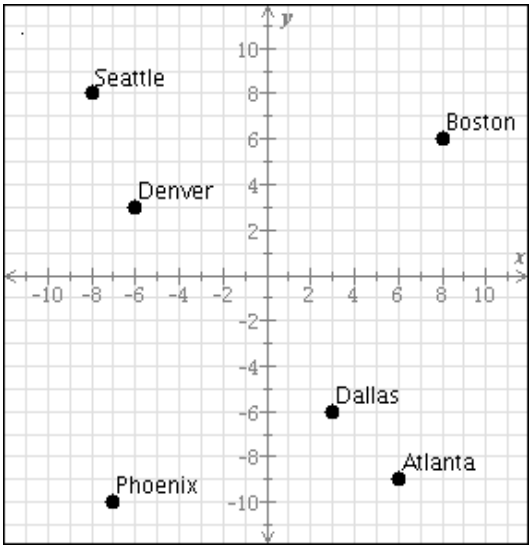
36. Graph the line with slope $\frac{1}{2}$ passing through the point $(-2, 5)$



37. Find the slope of the line graphed below.



38. Give the location of Denver as an ordered pair (x, y)

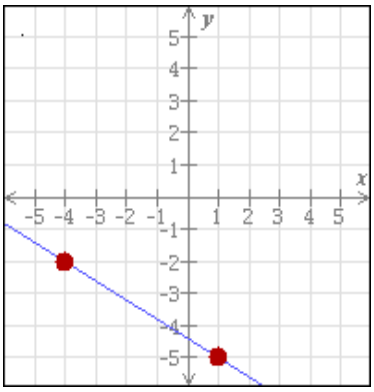


39. Consider the line $y = -\frac{5}{3}x + 5$

(a) Find the equation of the line that is perpendicular to this line and passes through the point $(-5, -4)$

(b) Find the equation of the line that is parallel to this line and passes through the point $(-5, -4)$

40. Find the slope of the line graphed below.



41. Write equations for the vertical and horizontal lines passing through the point $(1, -6)$

vertical line:

horizontal line:

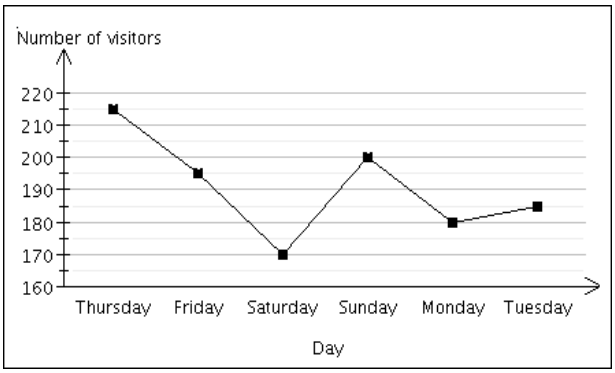
42. Find the slope and the y-intercept of the line.

$$7x - 4y = -20$$

Write your answers in simplest form.

43. Find the slope of the line passing through the points $(-2, -7)$ and $(3, 5)$

44. The graph below shows the numbers of visitors at a museum over six days.



(a) What was the greatest number of visitors in a day?

(b) When did the number of visitors have the greatest increase?

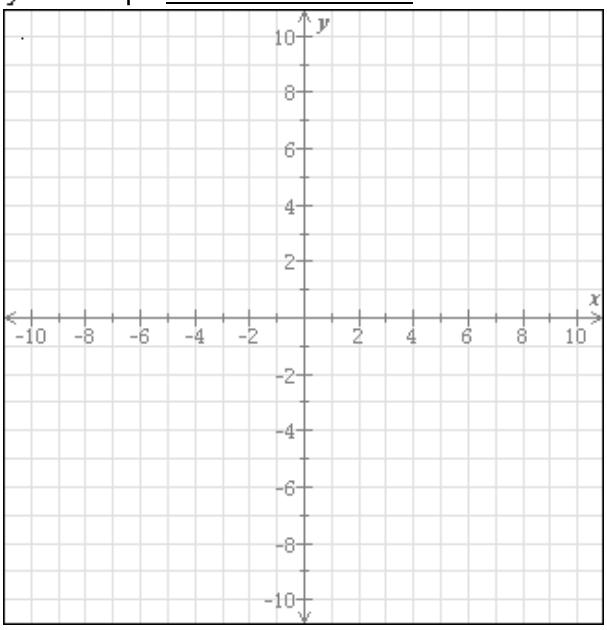
45. The equation of a line is given below.

$$-4x-2y=8$$

Find the slope and the y-intercept.
Then use them to graph the line.

slope: _____

y-intercept: _____



46. Graph the line.

$$y=-\frac{2}{3}x+8$$