

**Test Bank for College Algebra 9th Edition Ron Larson ISBN  
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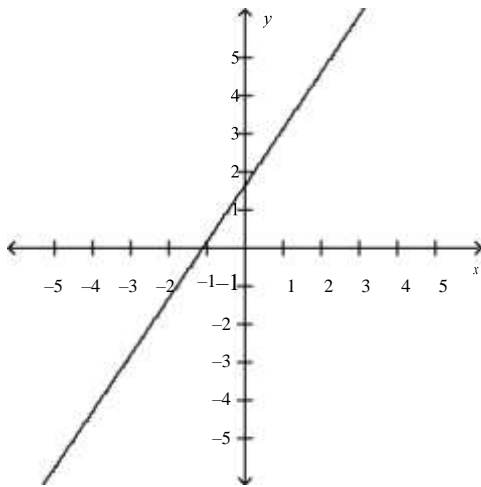
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**2: Functions and Their Graphs**

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**2.1 Linear Equations in Two Variables**

1. Estimate the slope of the line.



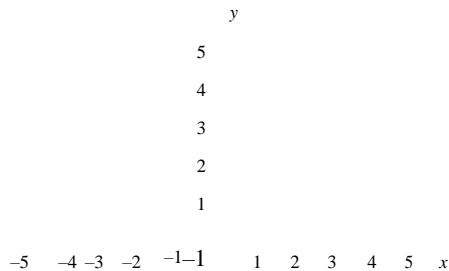
- a. 1.5
- b. 4.5
- c. 2.5
- d. 3.5
- e. Undefined

ANS: A                      PTS: 1                      REF: 2.1.13

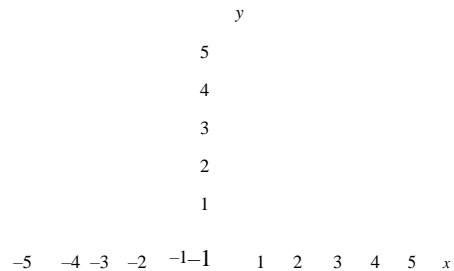
2. Find the slope and y-intercept (if possible) of the equation of the line. Sketch the line.

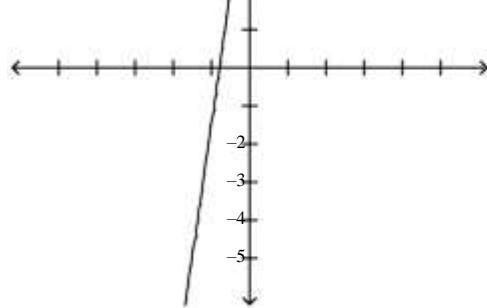
$y = 7x + 5$

a.



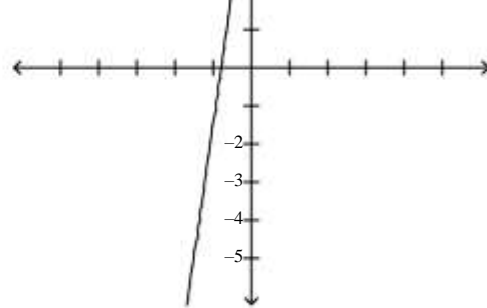
d.





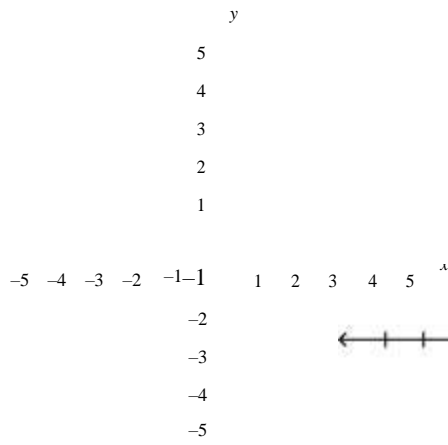
$m = 7$   
y-intercept: (0, 5)

b.



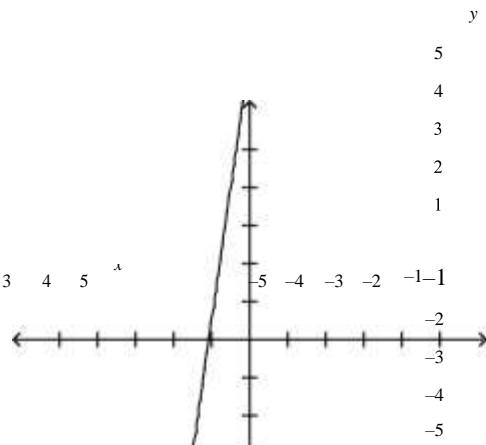
$m = -5$   
y-intercept: (0, 5)

e.

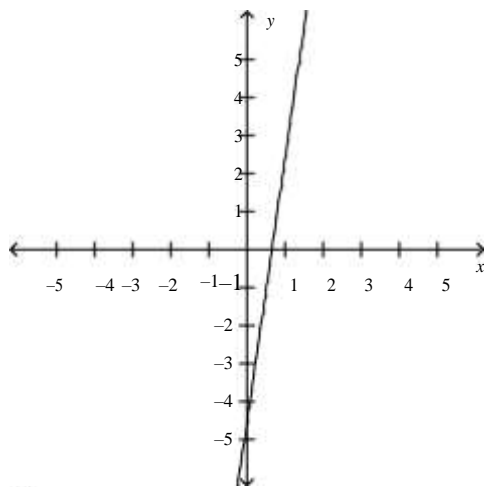
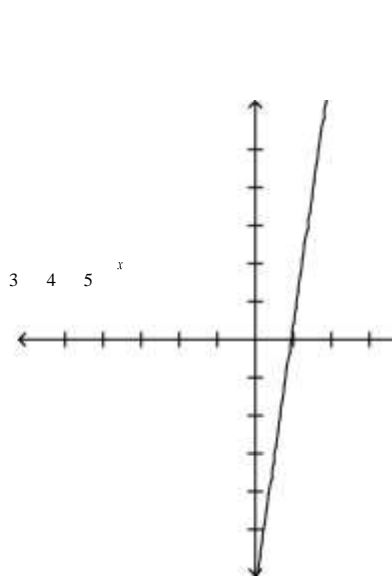


$m = -7$   
y-intercept: (0, 5)

c.



$m$  is undefined.  
y-intercept: (0, 5)



$m = 5$   
y-intercept: (0, 5)

ANS: A

PTS: 1

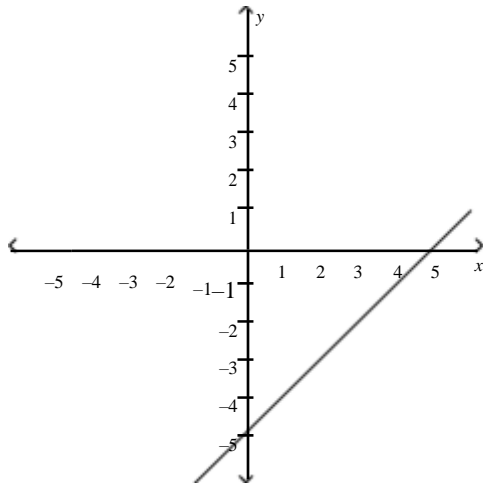
REF: 2.1.17

3. Find the slope and y-intercept (if possible) of the equation of the line. Sketch the line.

$y = x - 5$

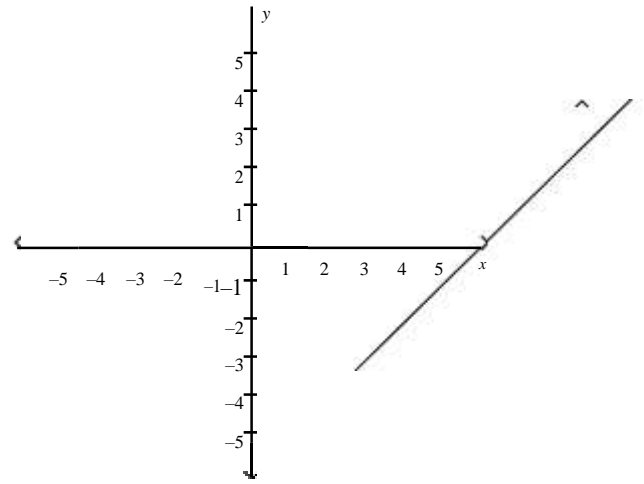
a.

d.



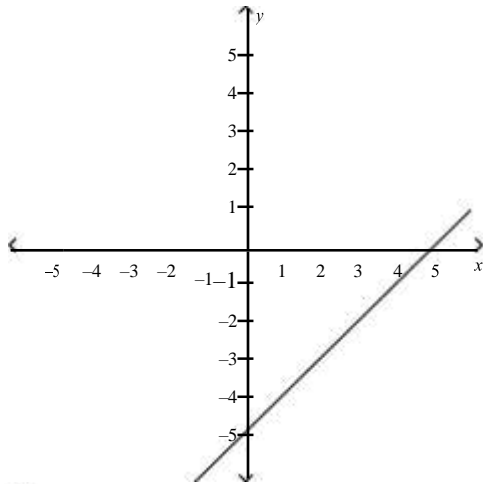
$m = 5$   
 5  
 y-intercept: (0, -5)

b.



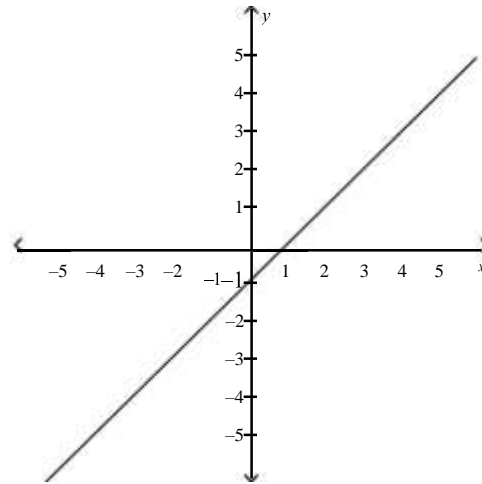
$m = -5$   
 -5  
 y-intercept: (0, 5)

e.

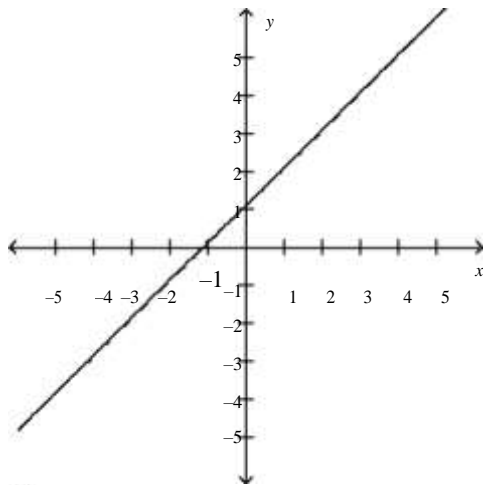


$m = 1$   
 y-intercept: (0, -5)

c.



$m$  is undefined.  
 y-intercept: (0, 5)



$m = -1$   
 y-intercept: (0, 5)

ANS: B

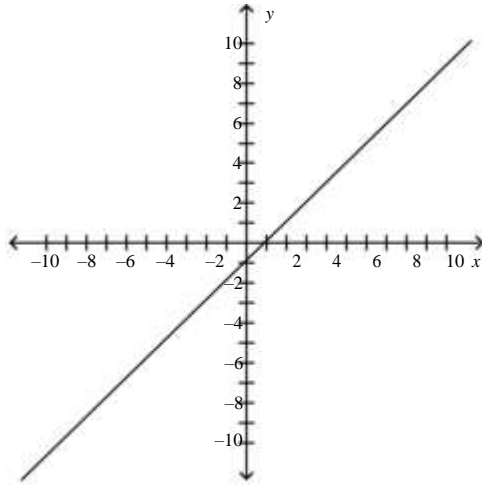
PTS: 1

REF: 2.1.18

4. Find the slope and y-intercept (if possible) of the equation of the line. Sketch the line.

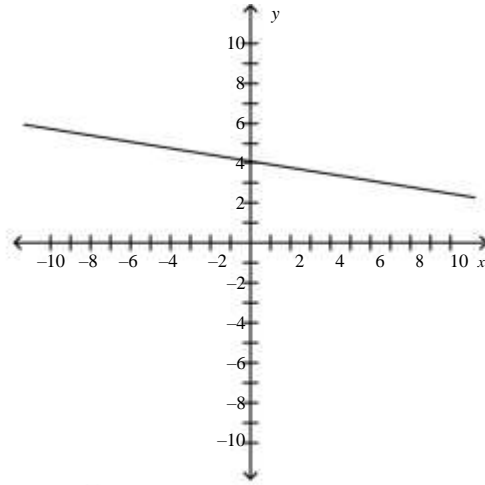
$$y = -\frac{1}{6}x + 4$$

a.



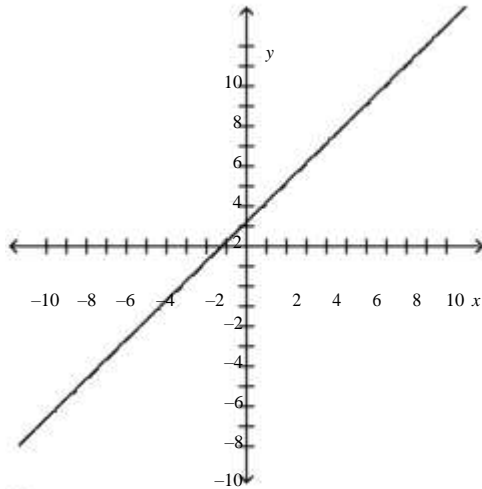
$m$  is undefined.  
y-intercept: (0, 4)

d.



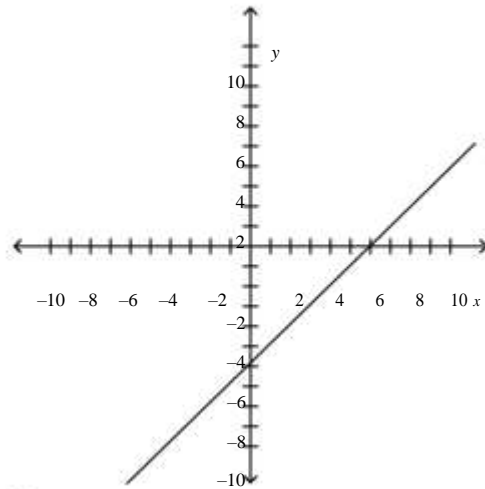
$m = -\frac{1}{6}$   
y-intercept: (0, 4)

b.



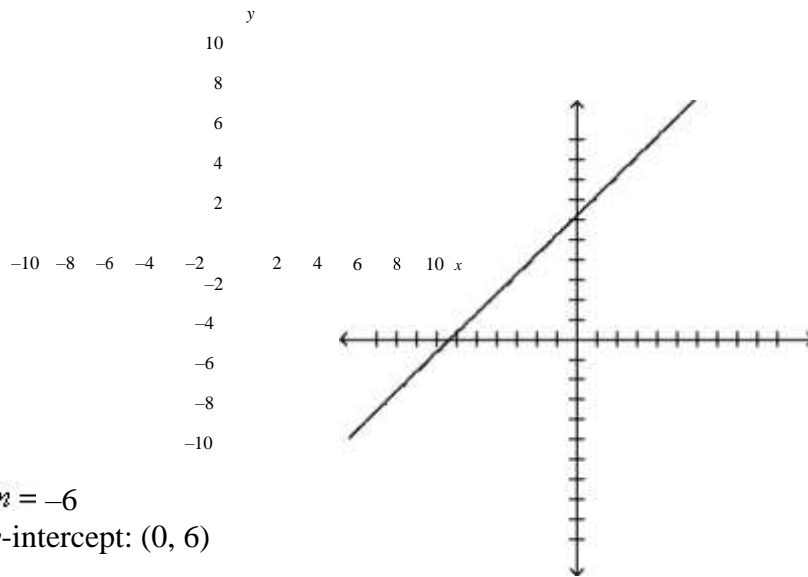
$m =$   
-1  
y-intercept: (0, 6)

e.



$m =$   
6  
y-intercept: (0, 6)

c.

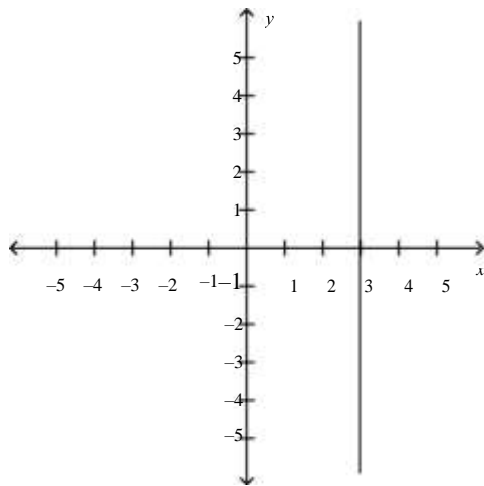


ANS: D      PTS: 1      REF: 2.1.19

5. Find the slope and y-intercept (if possible) of the equation of the line. Sketch the line.

$$5x - 3 = 0$$

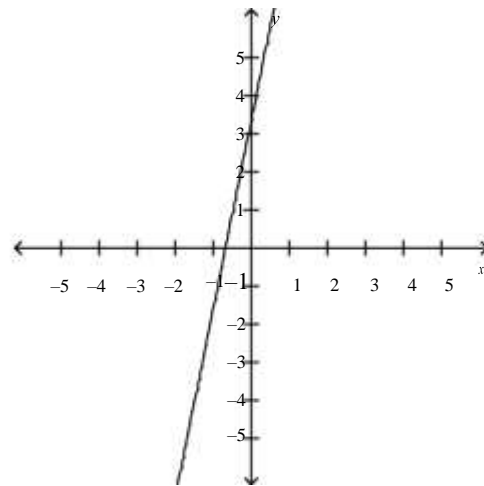
a.



$m$  is undefined.  
 There is no y-intercept.

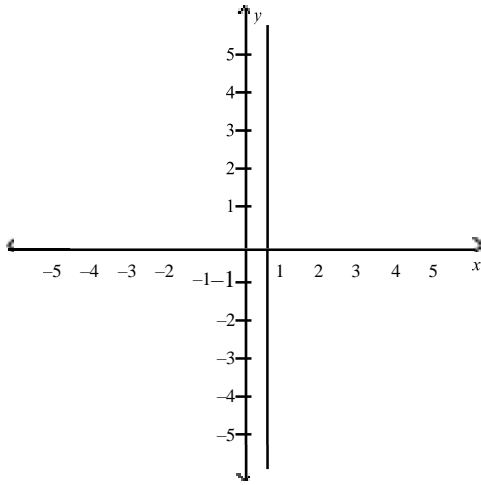
b.

d.

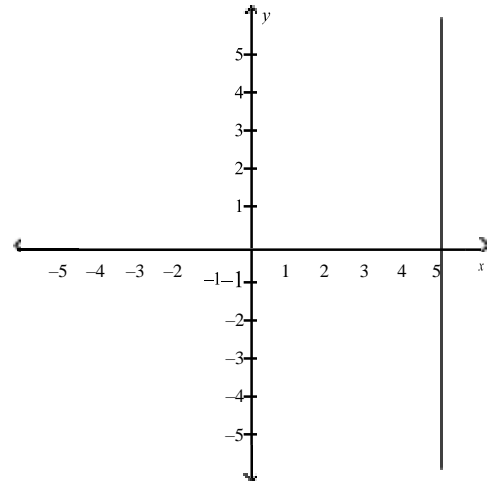


$m = -3$   
 y-intercept:  $(0, 5)$

e.

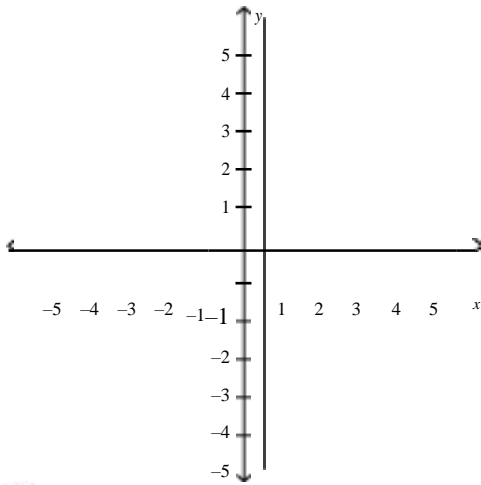


$m$  is undefined.  
There is no y-intercept.



$m$  is undefined.  
There is no y-intercept.

c.



$m =$   
 $-5$   
y-intercept: (0,3)

ANS: B

PTS: 1

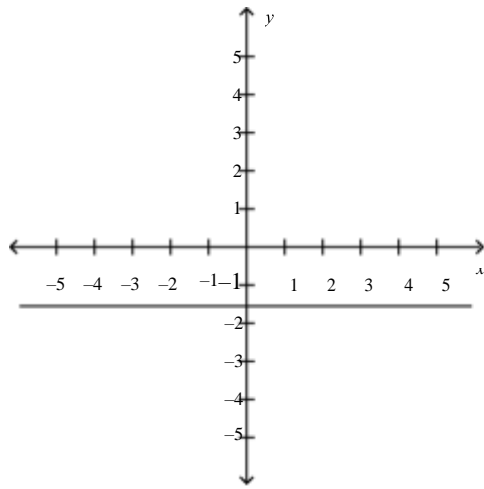
REF: 2.1.21

6. Find the slope and y-intercept (if possible) of the equation of the line. Sketch the line.

$$5y + 8 = 0$$

a.

d.

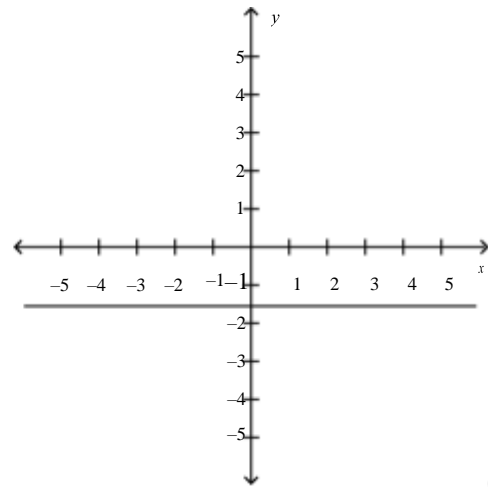


$m$  is Undefined.

8

y-intercept: (0, 5)

b.



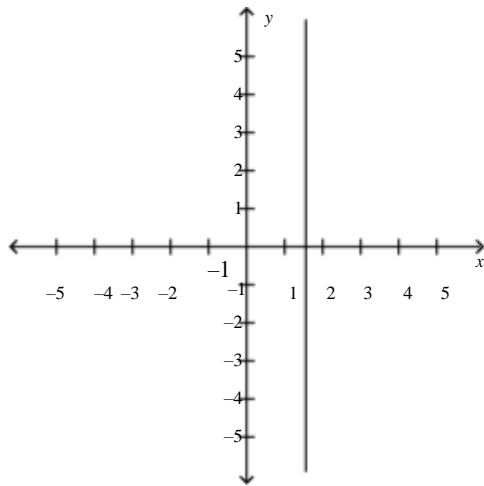
0

$m =$

8

y-intercept: (0, 5)

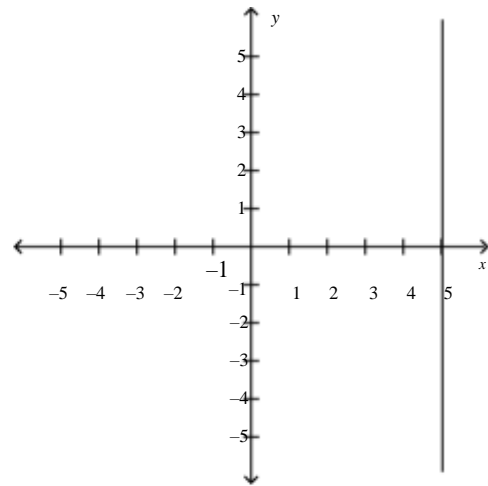
e.



$m = -5$

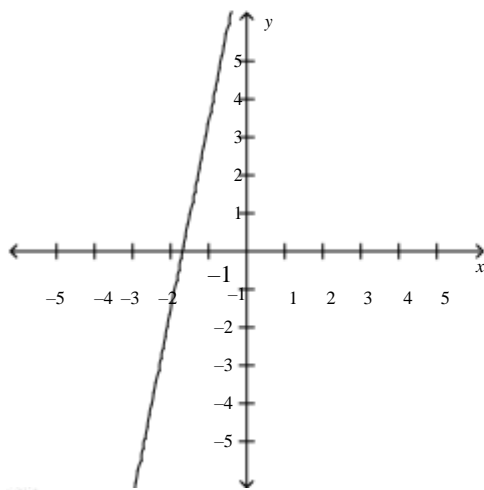
y-intercept: (0, 8)

c.



There is no y-intercept.

$m = 0$



$m = -8$

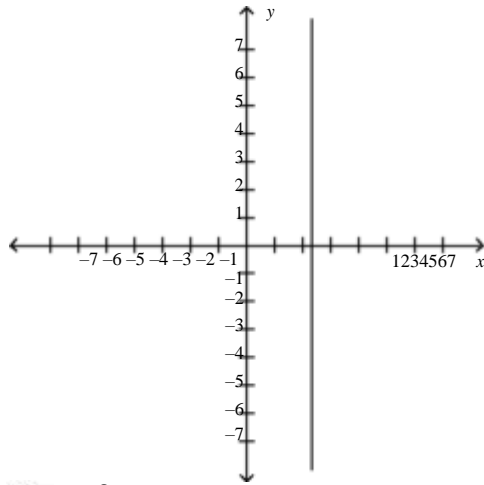
y-intercept: (0, 5)



7. Find the slope and y-intercept (if possible) of the equation of the line. Sketch the line.

$$y - 3 = 0$$

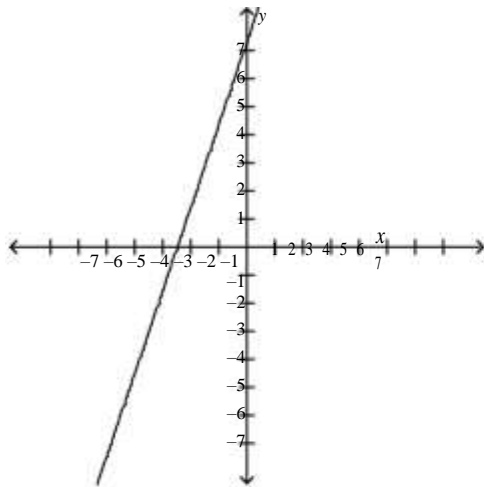
a.



$$m = -3$$

y-intercept: (0, 7)

b.

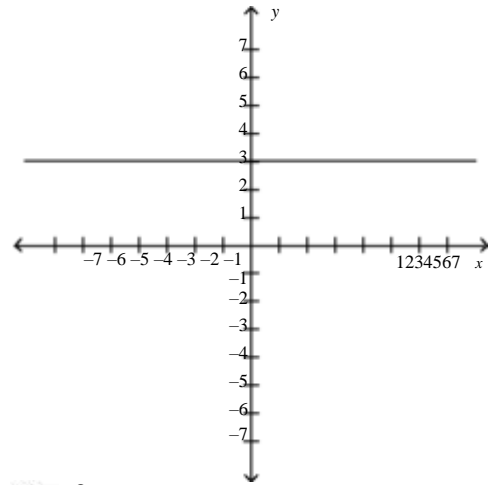


$$m = -7$$

y-intercept: (0, 3)

c.

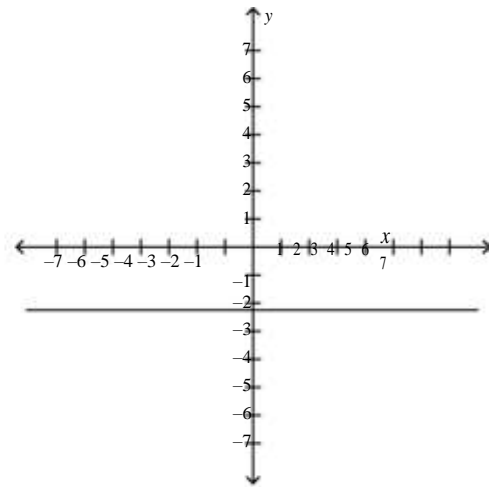
d.



$$m = 0$$

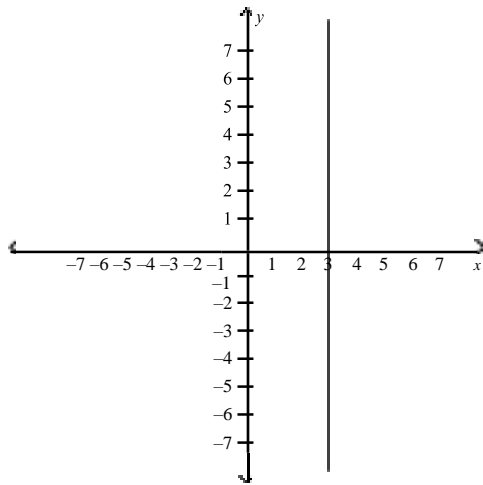
y-intercept: (0, 7)

e.


 $m$  is Undefined.

y-intercept: (0, 7)

3



$$m = 0$$

There is no y-intercept.

ANS: D

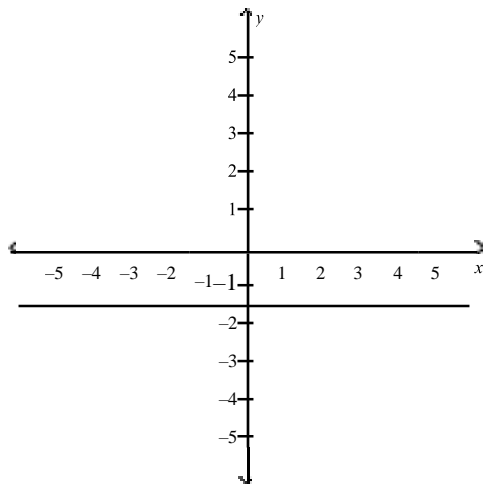
PTS: 1

REF: 2.1.25

8. Find the slope and y-intercept (if possible) of the equation of the line. Sketch the line.

$$y + 5 = 0$$

a.

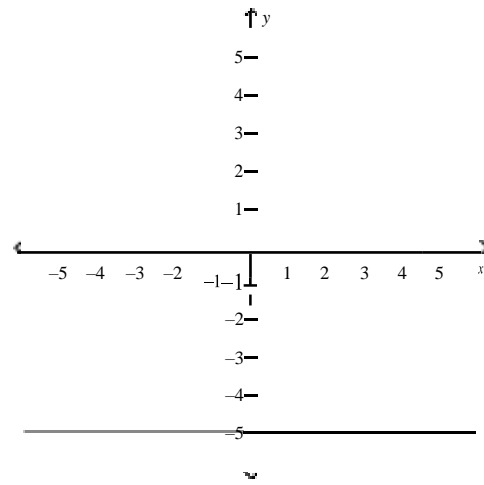


$m$  is Undefined.

There is no y-intercept.

b.

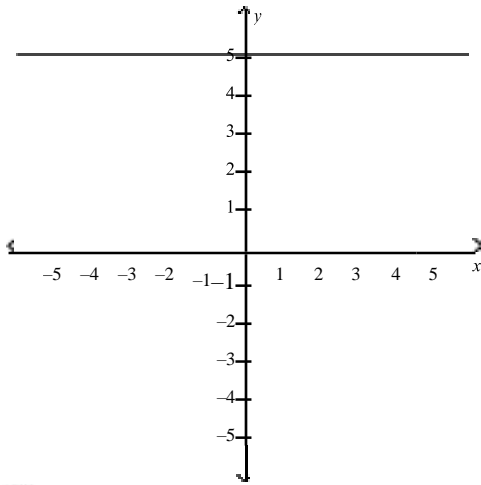
d.



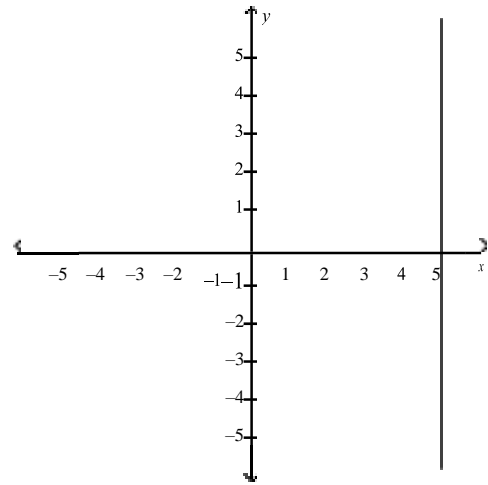
$$m = 0$$

y-intercept: (0, -5)

e.



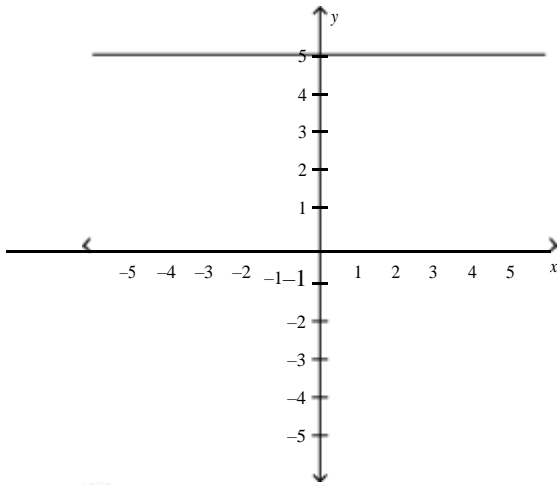
$m = 0$   
y-intercept:  $(0, -5)$



There is no y-intercept.

$m = 0$

c.



$m = 0$   
y-intercept:  $(0, 5)$

ANS: D

PTS: 1

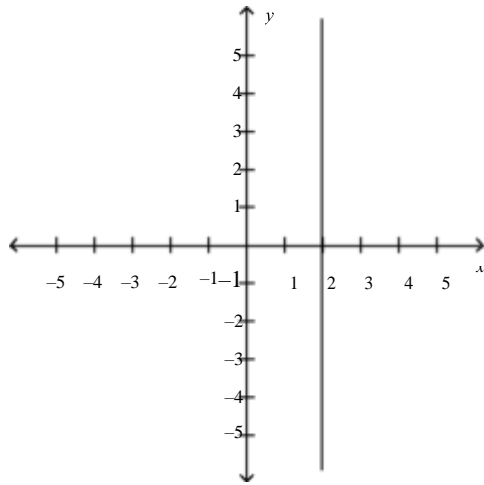
REF: 2.1.26

9. Find the slope and y-intercept (if possible) of the equation of the line. Sketch the line.

$$x + 3 = 0$$

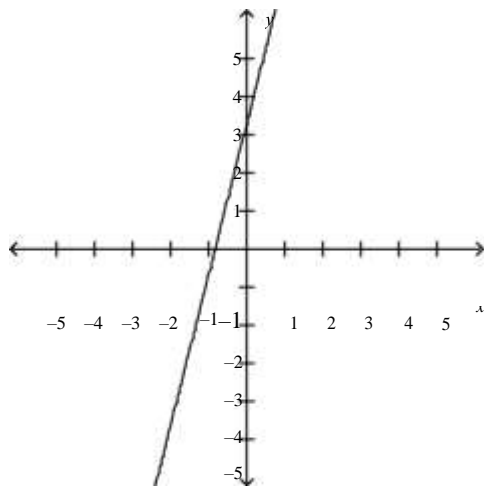
a.

d.



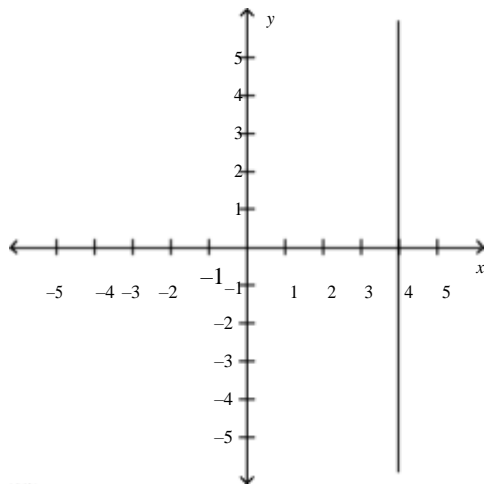
$m$  is undefined.  
There is no  $y$ -intercept.

b.

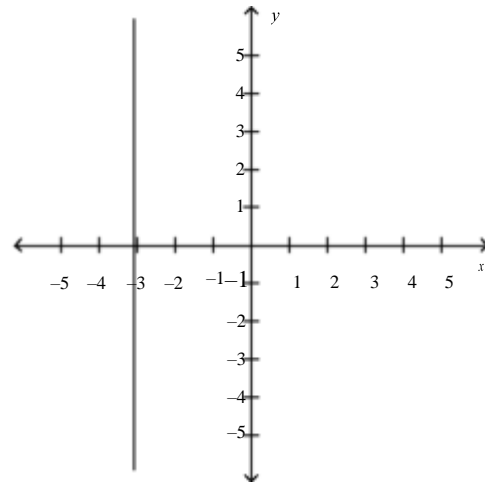


$m = -3$   
 $y$ -intercept:  $(0, 4)$

c.

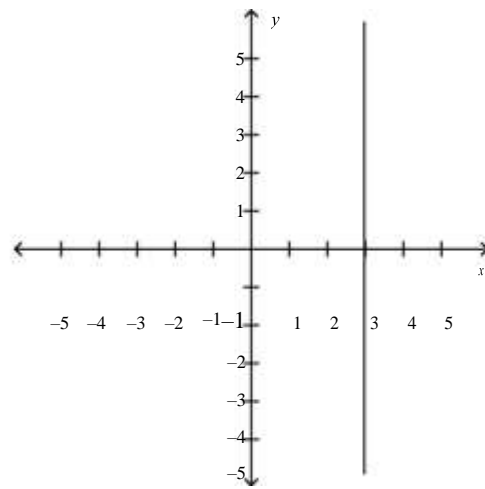


$m = -4$   
 $y$ -intercept:  $(0, 3)$



$m$  is undefined.  
There is no  $y$ -intercept.

e.

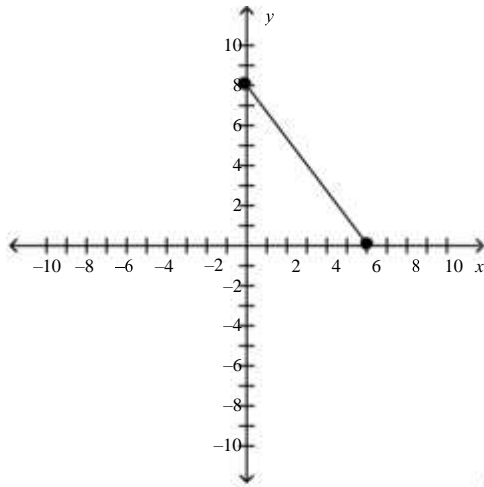


$m$  is undefined.  
There is no  $y$ -intercept.

10. Plot the points and find the slope of the line passing through the pair of points.

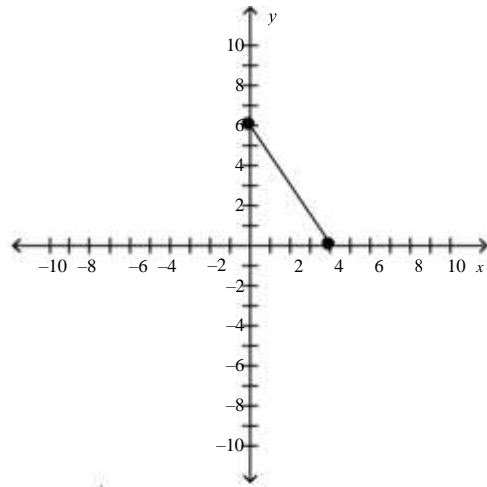
$(0, 6), (4, 0)$

a.



$\frac{3}{4}$

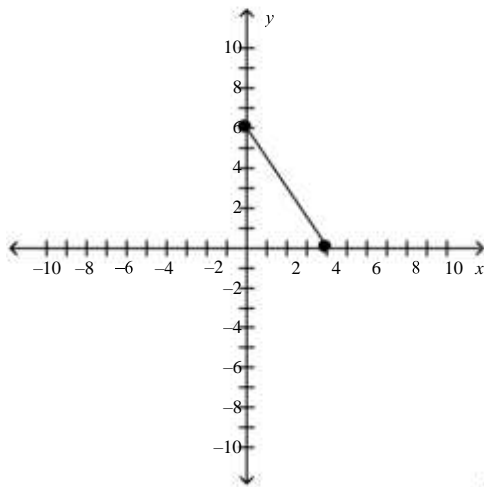
d.



$m =$

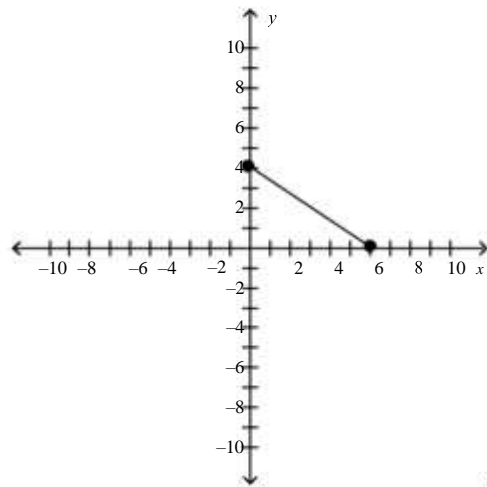
$\frac{2}{-3}$

b.



$\frac{3}{-2}$

e.

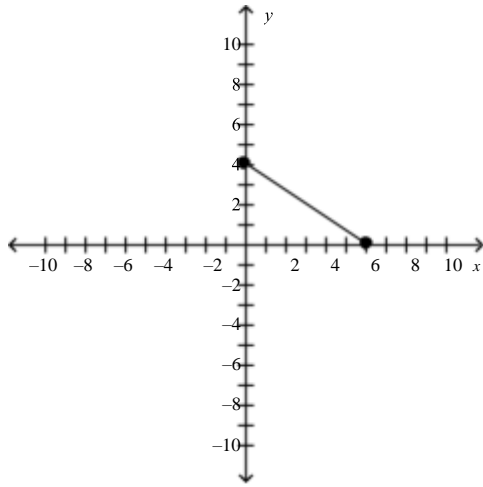


$m =$

$\frac{3}{2}$

$m =$

c.



$m =$

$$-\frac{3}{5}$$

ANS: B

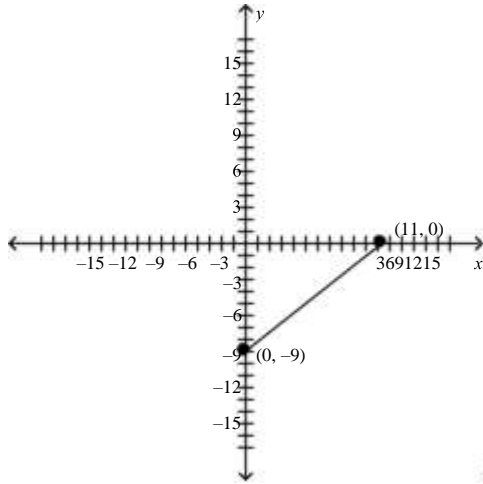
PTS: 1

REF: 2.1.29

11. Plot the points and find the slope of the line passing through the pair of points.

$(11, 0), (0, -9)$

a.

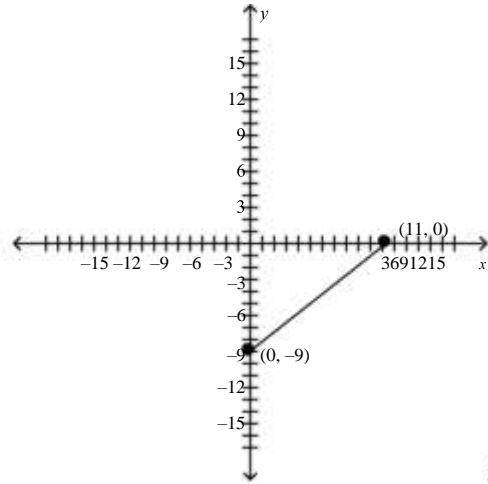


$m =$

$$-\frac{11}{9}$$

b.

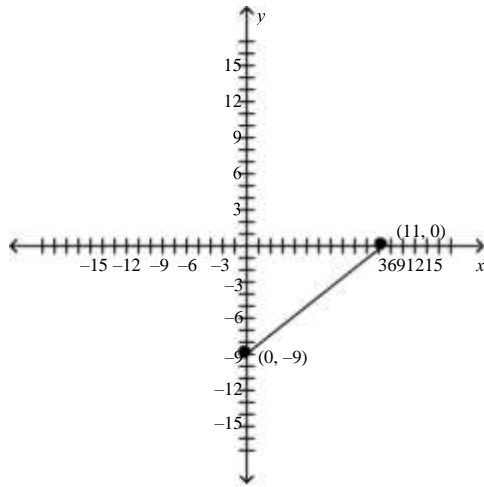
d.



$m =$

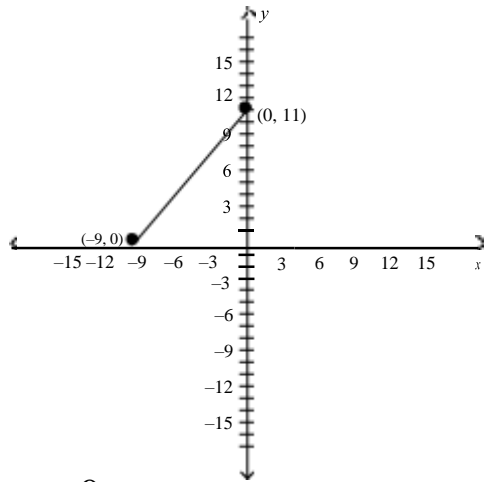
$$\frac{11}{9}$$

e.



$$m = \frac{9}{11}$$

c.



$$m = \frac{9}{-11}$$

ANS: B

PTS: 1

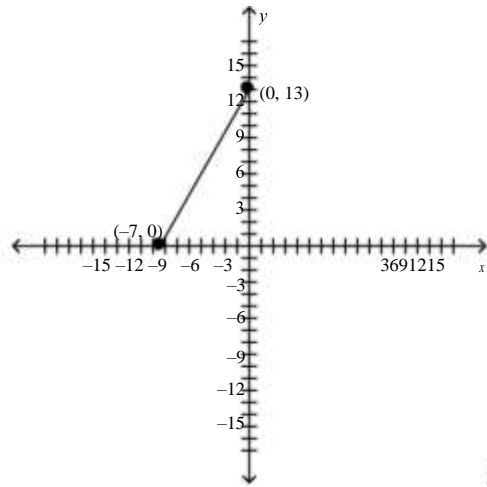
REF: 2.1.30

12. Plot the points and find the slope of the line passing through the pair of points.

$(-2, -9), (3, 5)$

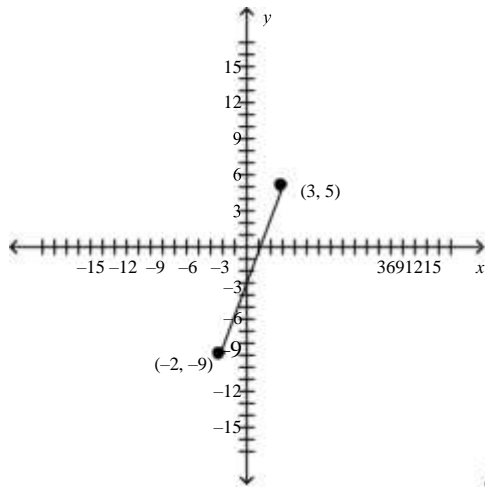
a.

d.



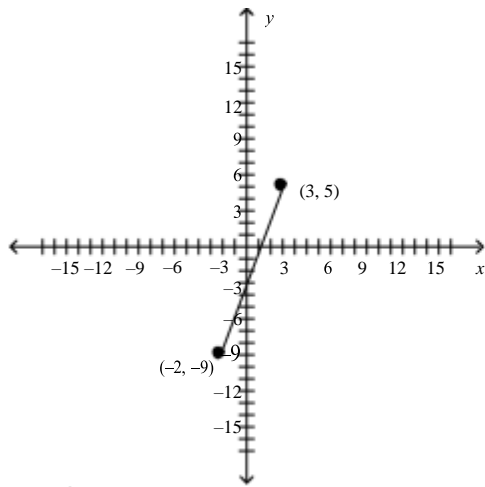
$$m = \frac{7}{13}$$

$m =$



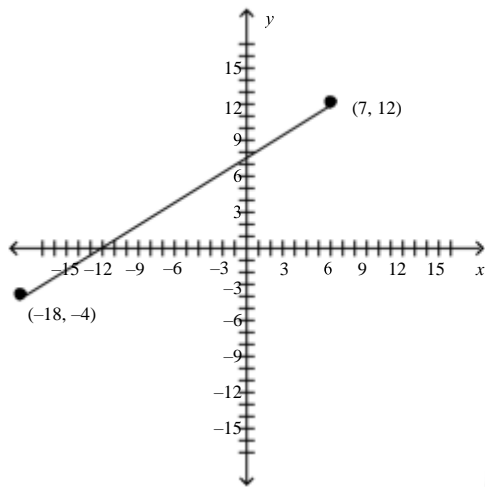
4

b.



$$m = \frac{14}{5}$$

c.

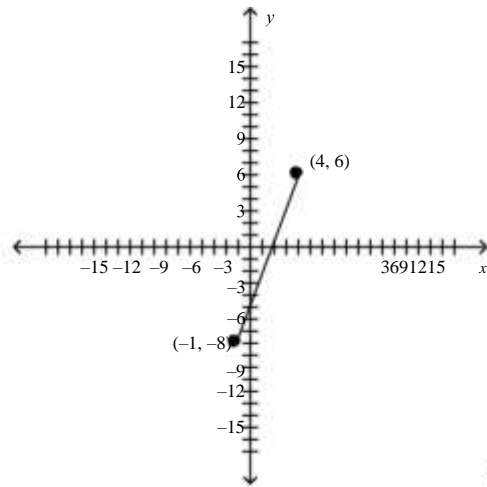


$$-14\frac{5}{1}$$

ANS: B

PTS: 1

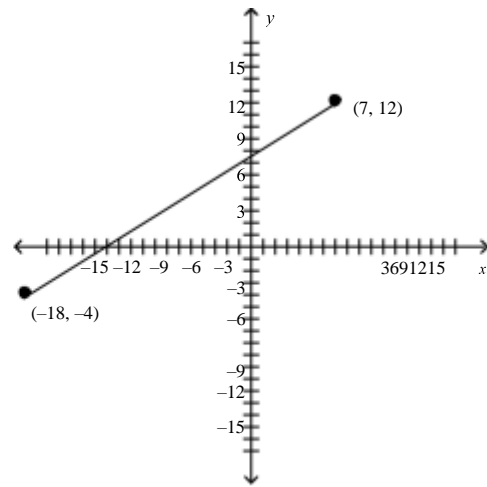
REF: 2.1.31



$m =$

$$\frac{14}{5}$$

e.



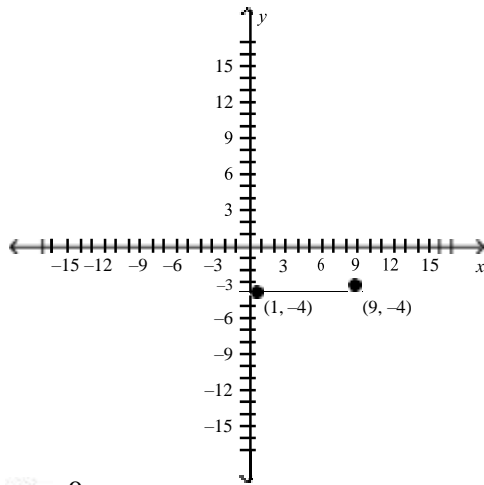
$m =$

$$\frac{5}{14}$$



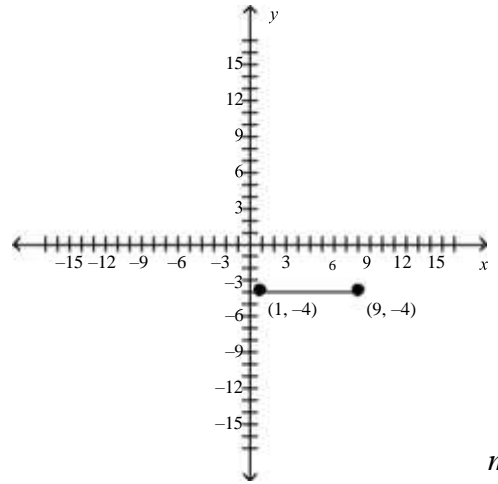
13. Plot the points and find the slope of the line passing through the pair of points.  $(9, -4), (1, -4)$

a.



$m = 0$

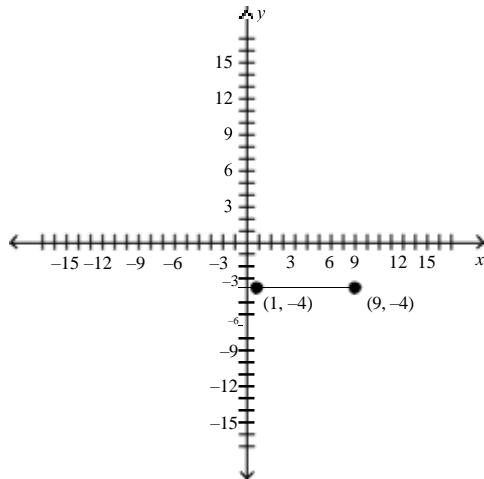
d.



is undefined

$m$

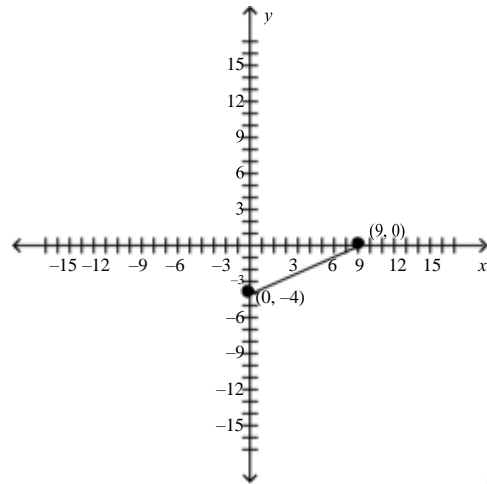
b.



$-\frac{1}{9}$

c.

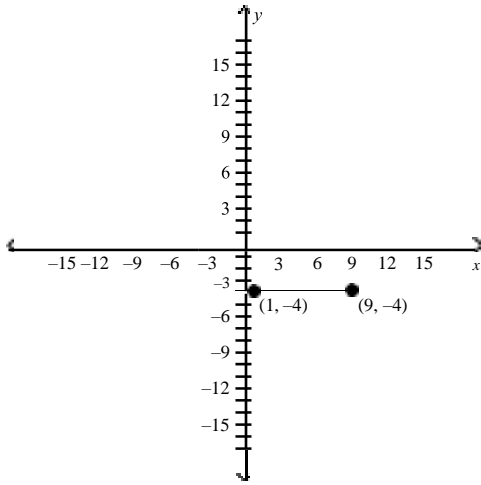
e.



$m =$

$\frac{1}{9}$

$m =$



$m =$

4  
5

ANS: A

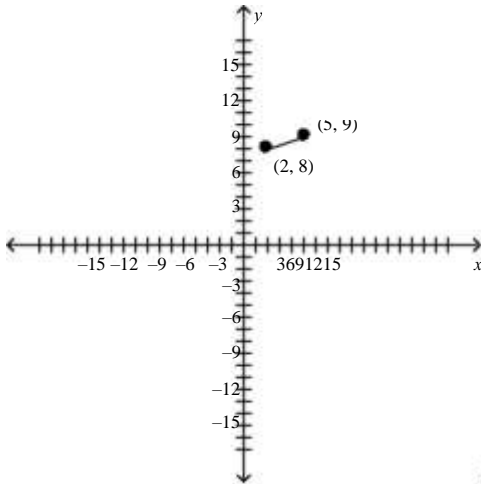
PTS: 1

REF: 2.1.33

14. Plot the points and find the slope of the line passing through the pair of points.

(4, 8), (8, -8)

a.

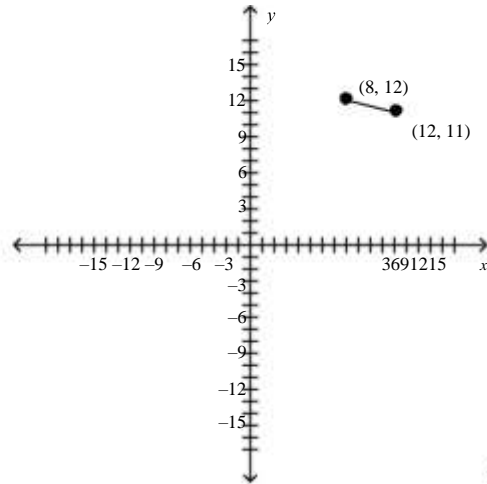


$m =$

4

b.

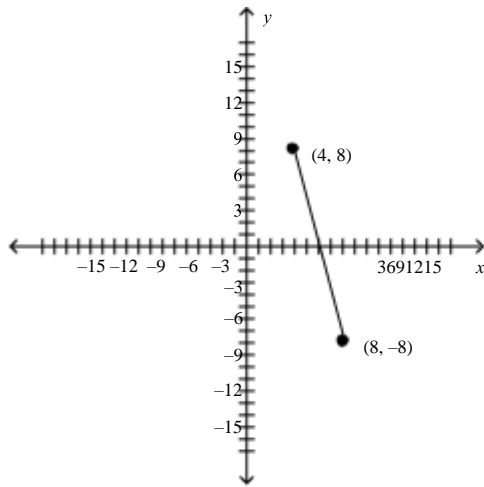
d.



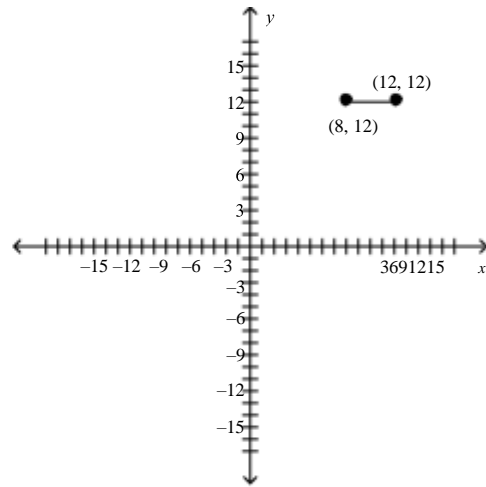
$m =$

3

e.



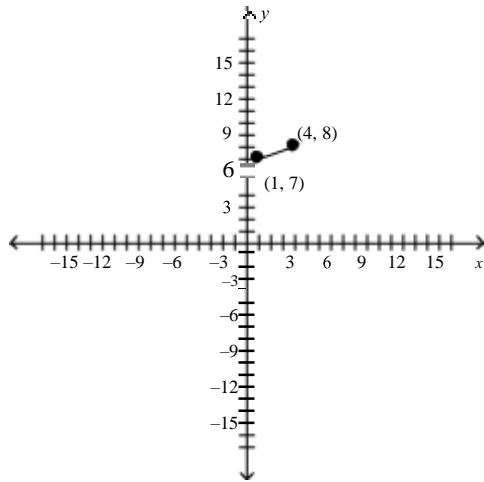
$m = 4$



$m =$

3

c.



$m =$

3

ANS: B

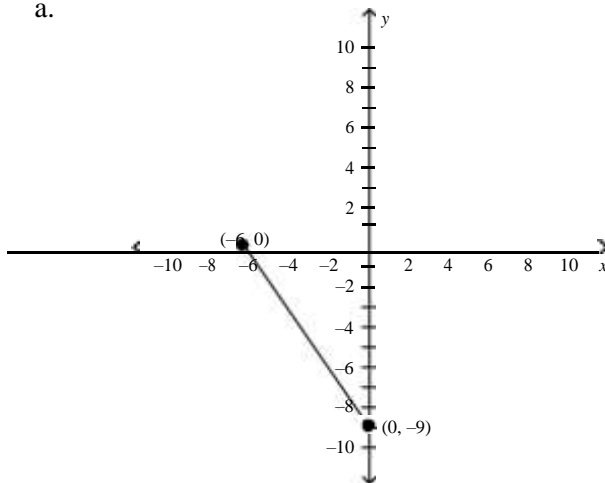
PTS: 1

REF: 2.1.32

15. Plot the points and find the slope of the line passing through the pair of points.

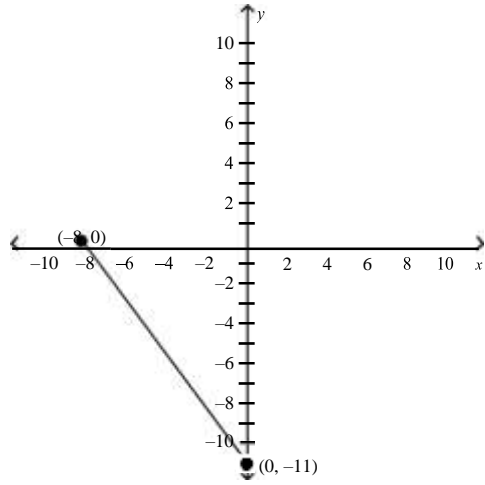
$(0, -9), (-6, 0)$

a.



d.

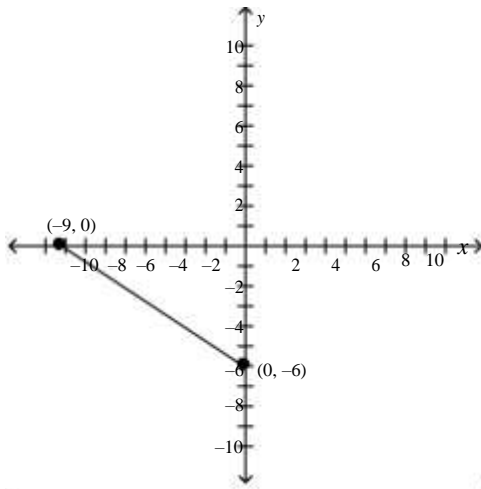
$$m = \frac{3}{2}$$



$$m =$$

$$\frac{4}{7}$$

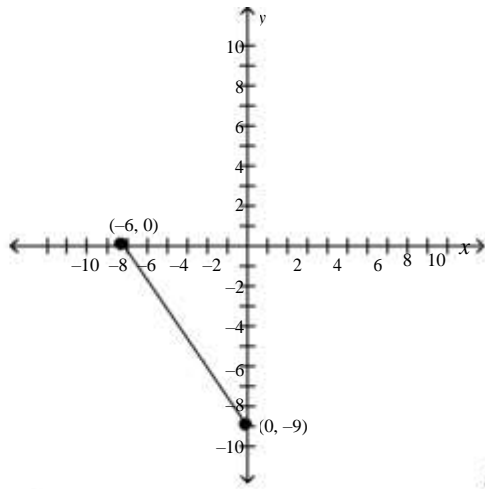
b.



$$m =$$

$$\frac{3}{2}$$

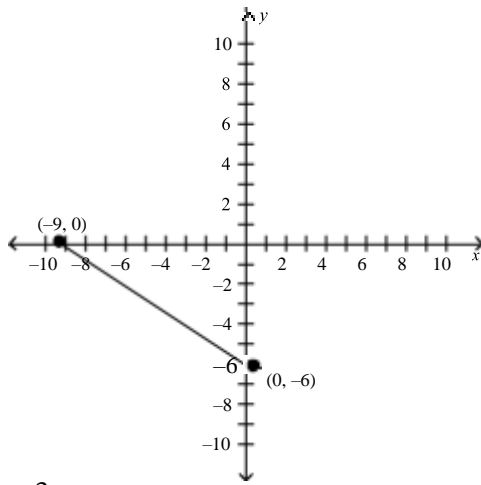
e.



$$m =$$

$$\frac{3}{-2}$$

c.



$$m =$$

$$\frac{3}{-2}$$

ANS: E

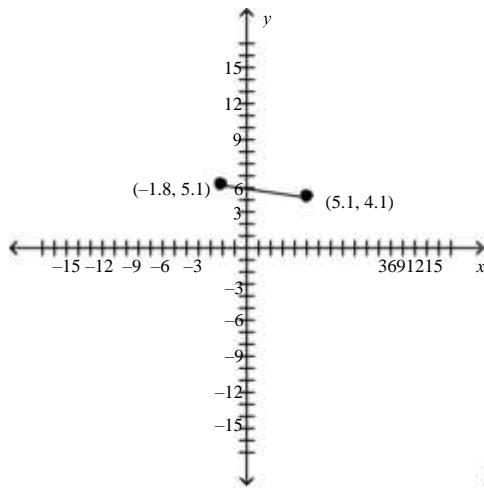
PTS: 1

REF: 2.1.36

16. Plot the points and find the slope of the line passing through the pair of points.

(4.1, 3.1), (-2.8, 4.1)

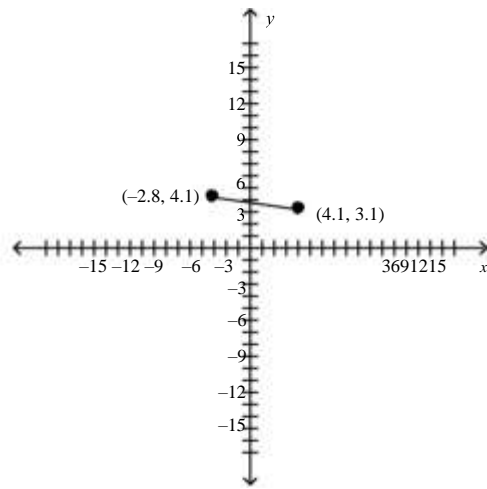
a.



0.26

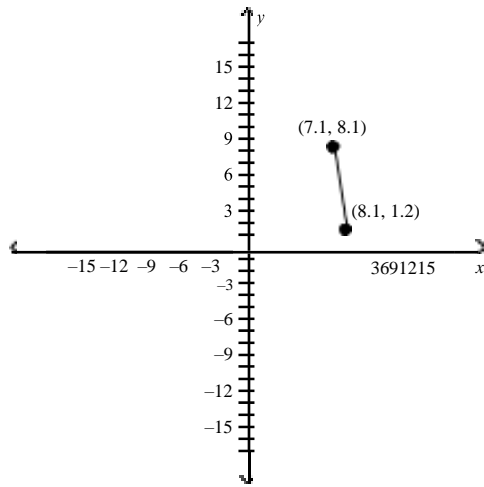
$m =$

d.



$m = -0.14$

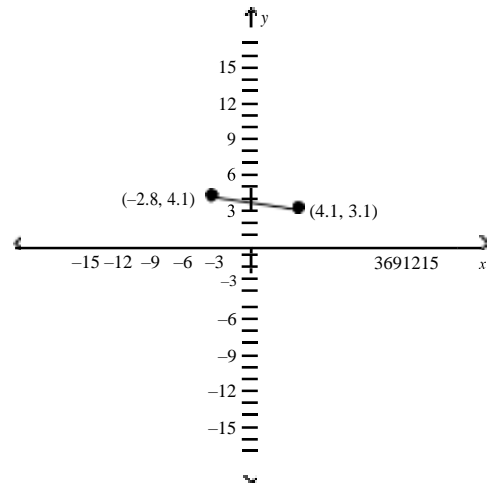
b.



-6.9

$m =$

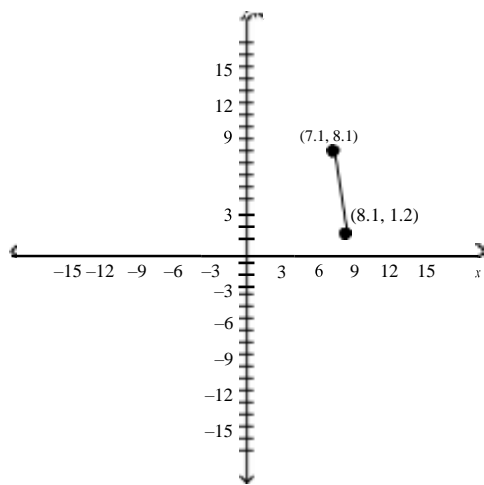
e.



5.54

$m =$

c.



$m =$

0.66

ANS: D

PTS: 1

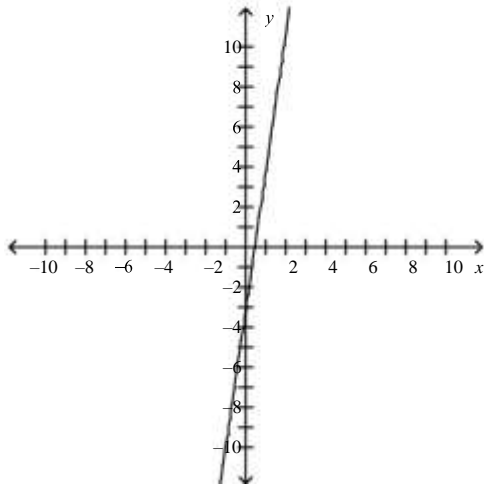
REF: 2.1.39

17. Find the slope-intercept form of the equation of the line that passes through the given point and has the indicated slope  $m$ . Sketch the line.

$(0, -4)$ ,  $m = 7$

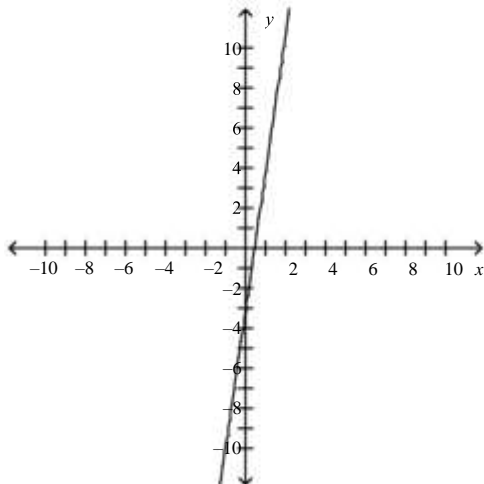
a.

$$y = 7x + 7$$



b.

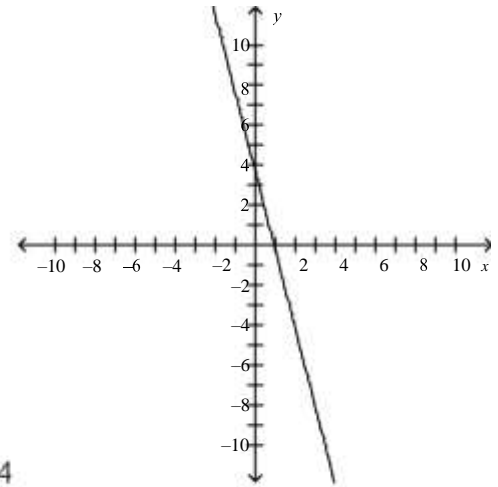
$$y = 7x - 4$$



c.

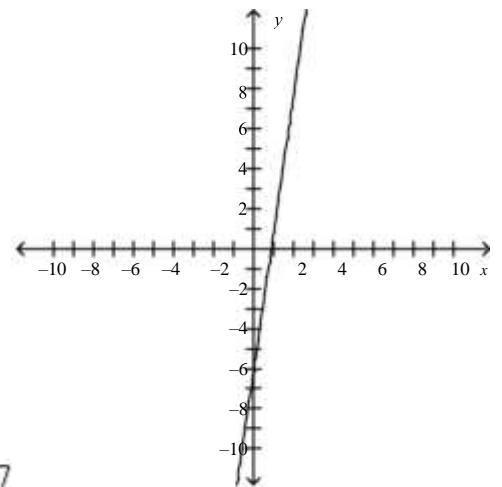
d.

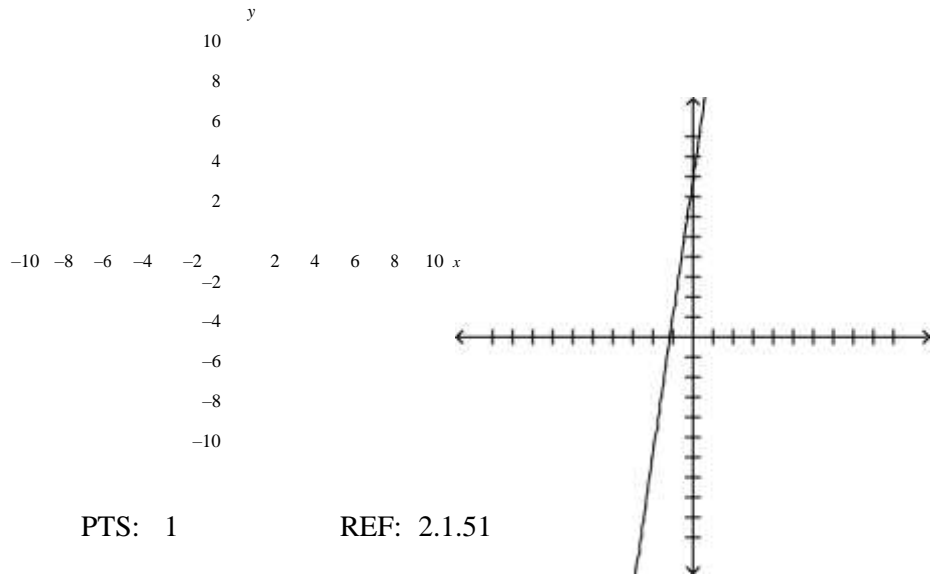
$$y = -4x - 4$$



e.

$$y = 7x - 7$$

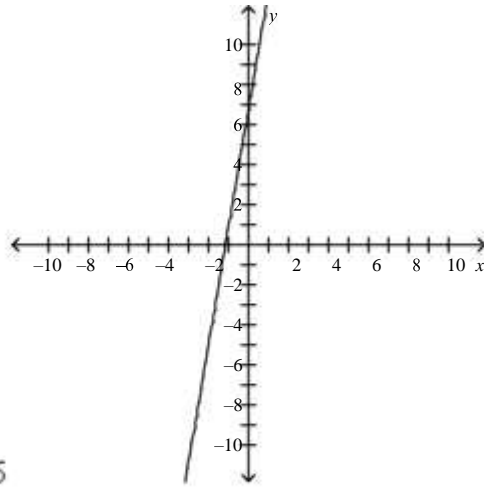




18. Find the slope-intercept form of the equation of the line that passes through the given point and has the indicated slope  $m$ . Sketch the line.

$(-6, 6), \quad m = -2$

a.

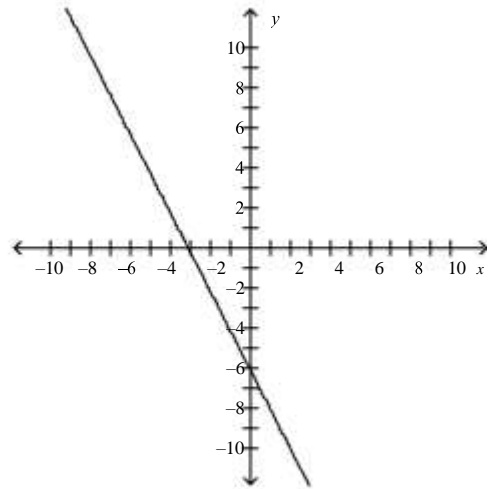


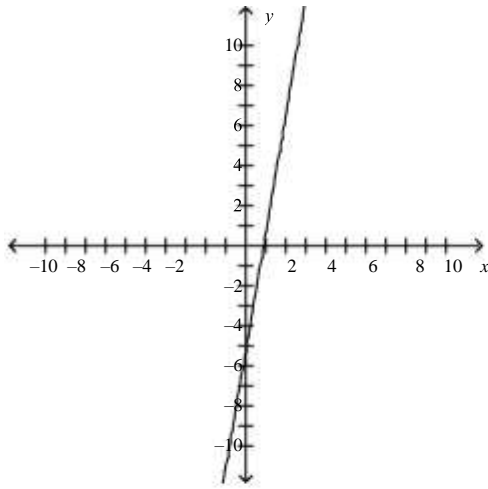
b.

$y = 6x + 6$

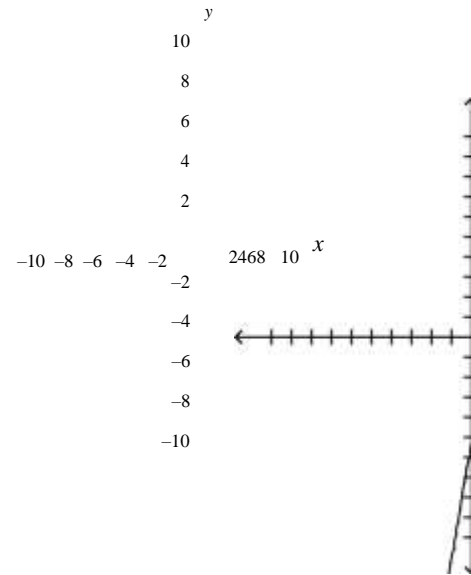
d.

$y = -2x - 6$

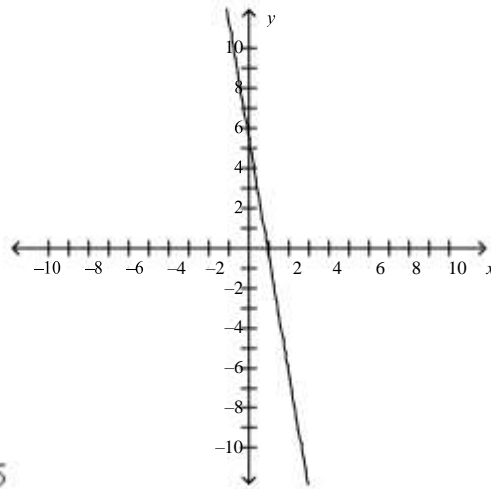




$$y = 6x - 6$$



c.



$$y = -6x - 6$$

ANS: D

PTS: 1

REF: 2.1.53

19. Find the slope-intercept form of the equation of the line that passes through the given point and has the indicated slope  $m$ . Sketch the line.

$(0, 0), m = 3$

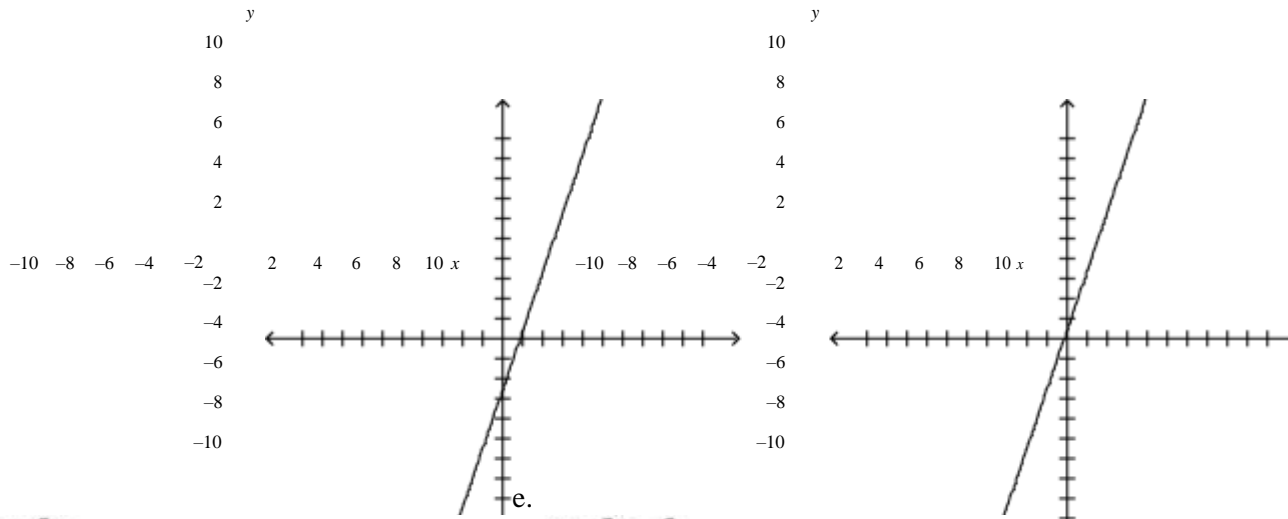
a.

$$y = 3x - 3$$

d.

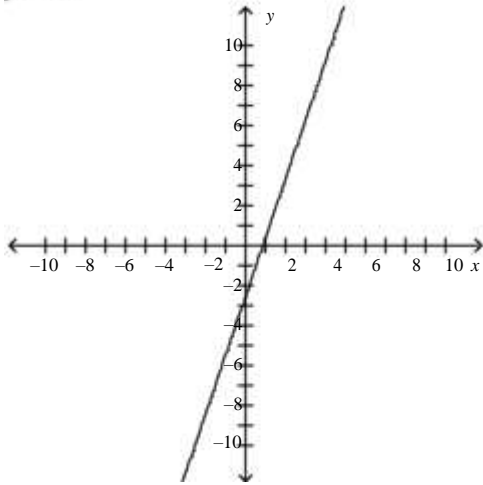
$$y = 3x$$



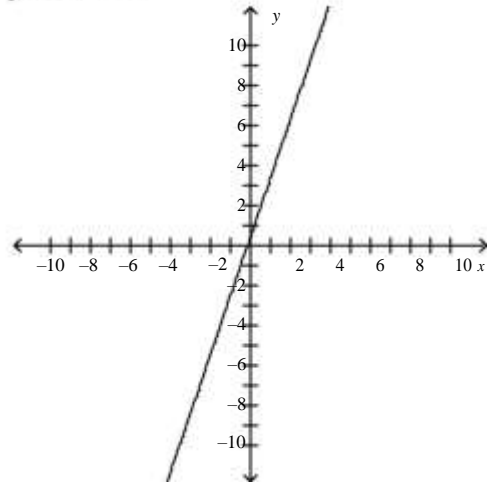


b.

$$y = 3x$$

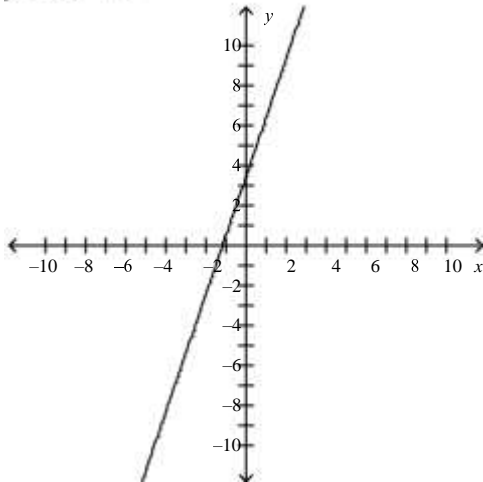


$$y = 3x - 3$$



c.

$$y = 3x + 3$$



ANS: D

PTS: 1

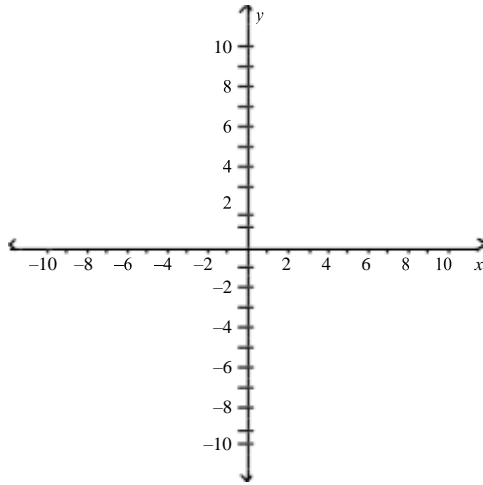
REF: 2.1.54

20. Find the slope-intercept form of the equation of the line that passes through the given point and has the indicated slope  $m$ . Sketch the line.

$(3, -9)$ ,  $m$  is undefined.

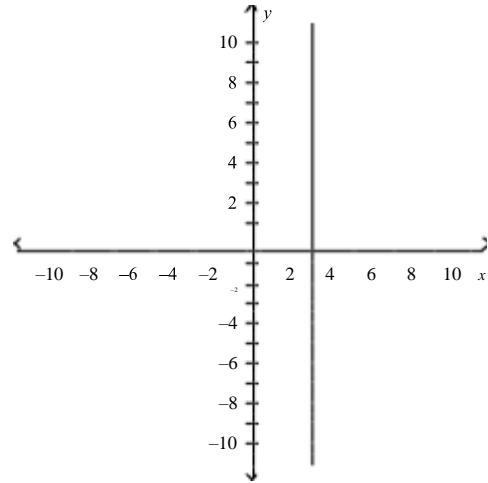
a.

$$x = 3$$



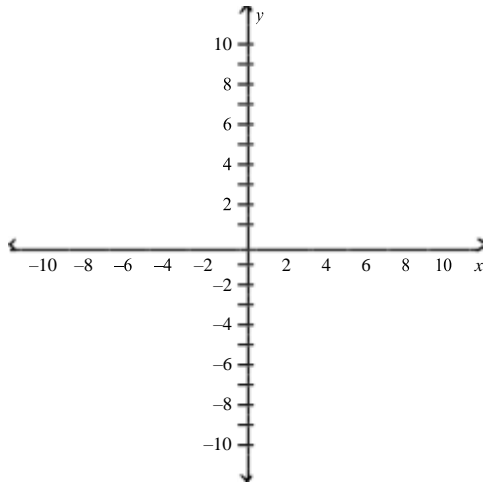
d.

$$x = 3y - 9$$



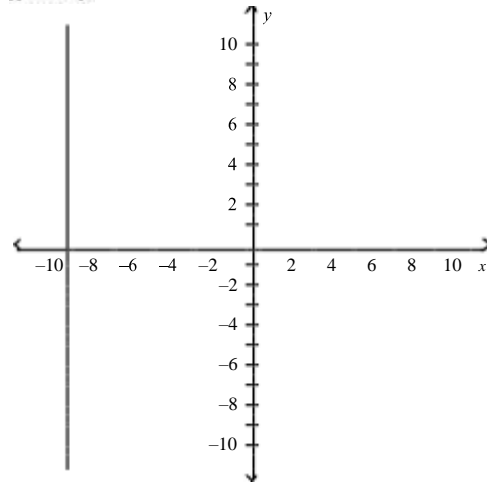
b.

$$y = 3x - 9$$



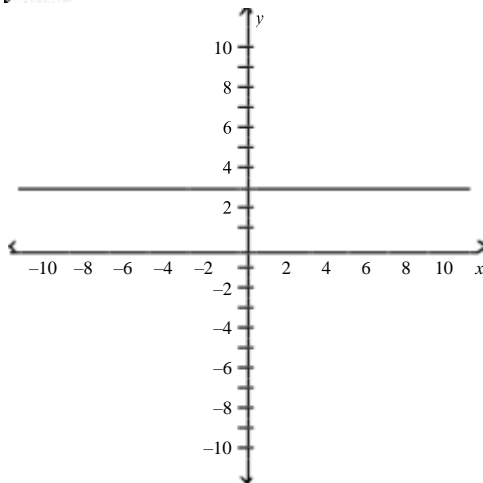
e.

$$x = -9$$



c.

$$y = 3$$



ANS: A

PTS: 1

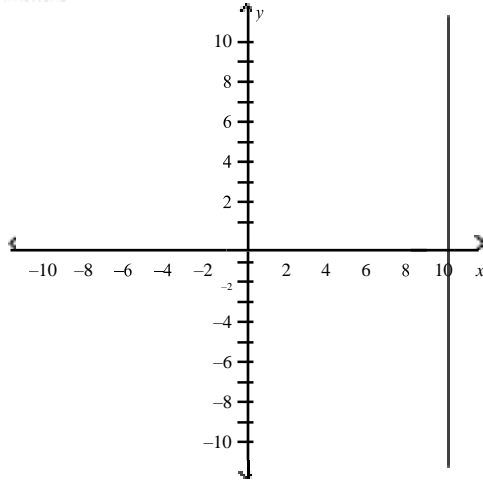
REF: 2.1.59

21. Find the slope-intercept form of the equation of the line that passes through the given point and has the indicated slope  $m$ . Sketch the line.

10  
(4, 3),  $m = 0$

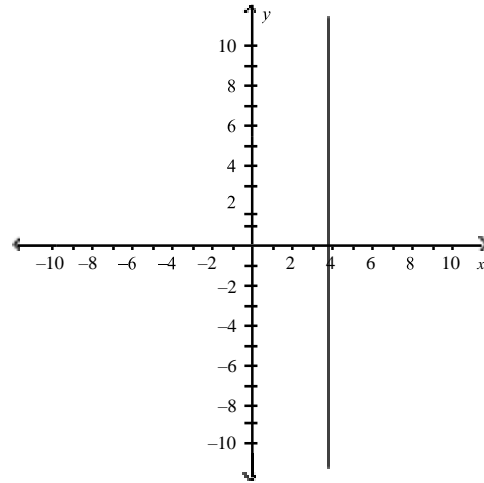
a.

$x = 4$



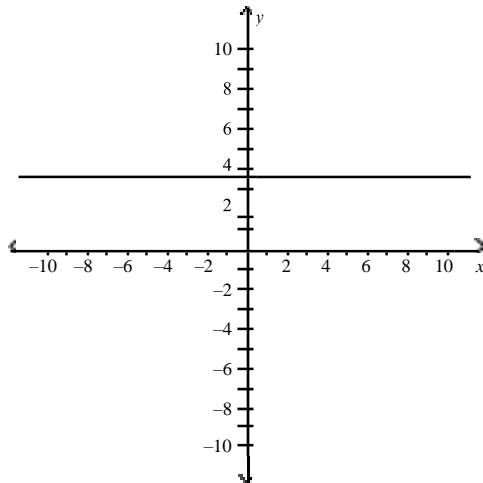
d.

$y = 4x + 10$



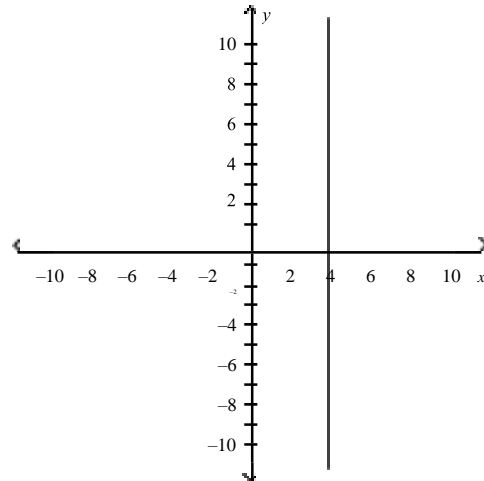
b.

$y = \frac{10}{3}$



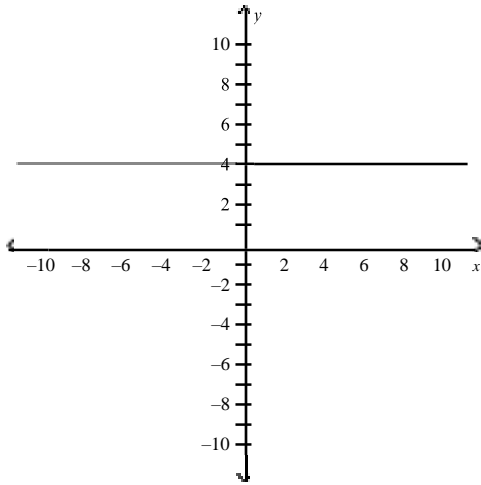
e.

$x = 4y + 10$



c.

$y = 4$



ANS: B

PTS: 1

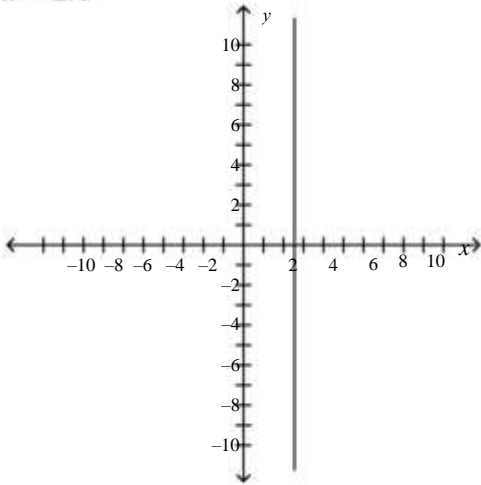
REF: 2.1.61

22. Find the slope-intercept form of the equation of the line that passes through the given point and has the indicated slope  $m$ . Sketch the line.

$(2.6, -8.2)$ ,  $m = -2$

a.

$$x = 2.6$$

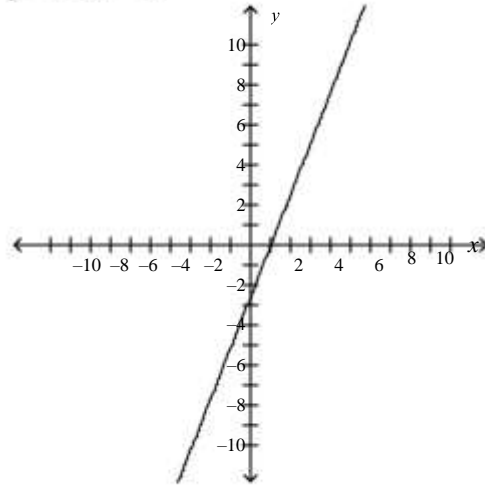


b.

$$y = -2x - 3$$

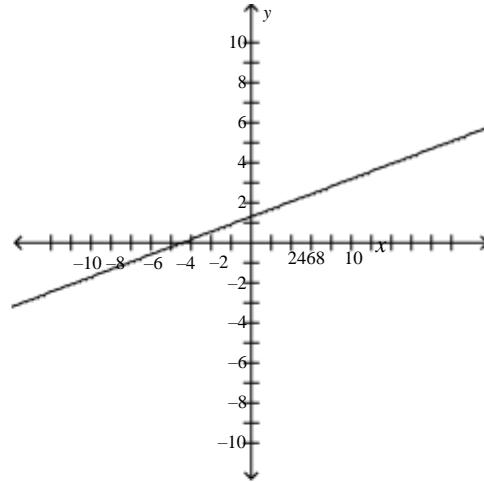
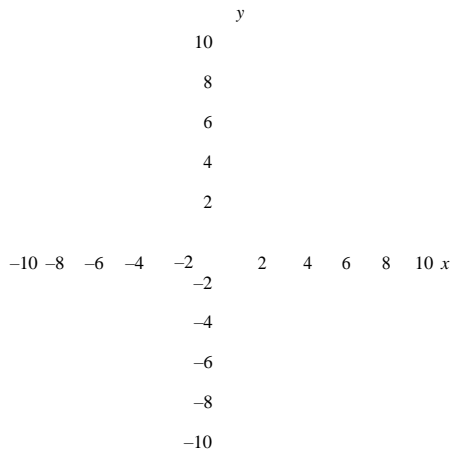
d.

$$y = 2.6x - 3$$



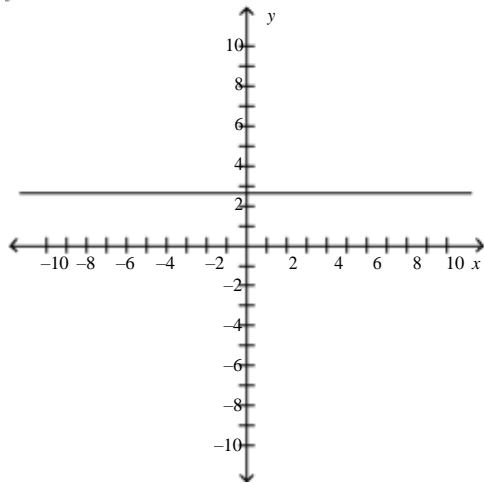
e.

$$x = 2.6y - 3$$



c.

$$y = 2.6$$



ANS: B

PTS: 1

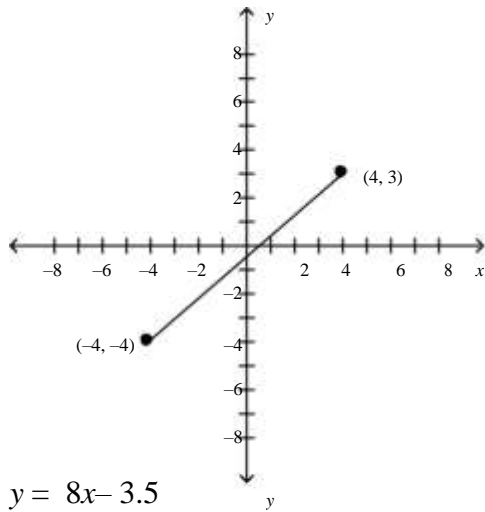
REF: 2.1.64

23. Find the slope-intercept form of the equation of the line passing through the points. Sketch the line.

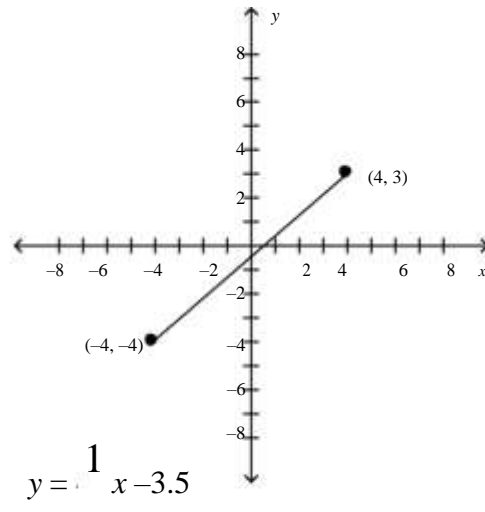
$$(4, -3), (-4, 4)$$

a.  $y = \frac{1}{8}x - 0.5$

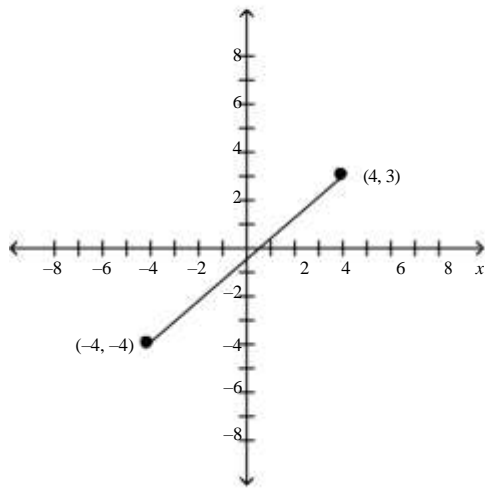
d.  $y = 8x + 3.5$



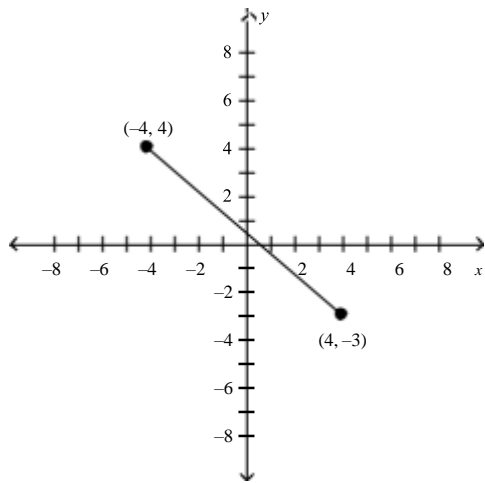
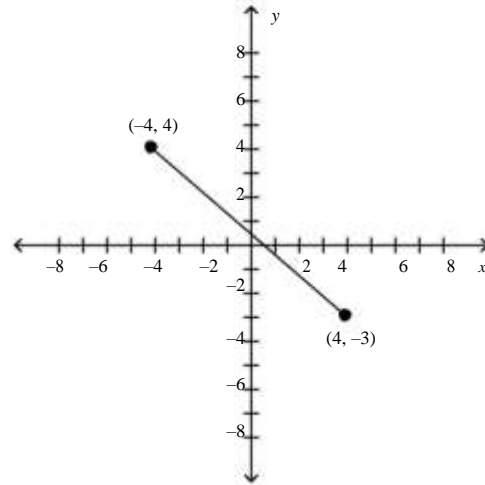
b.  $y = 8x - 3.5$



e.  $y = \frac{1}{8}x - 3.5$



c.  $y = \frac{1}{8}x + 3.5$



ANS: E

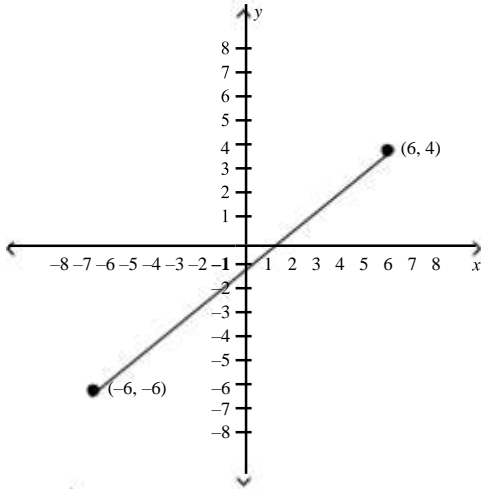
PTS: 1

REF: 2.1.65

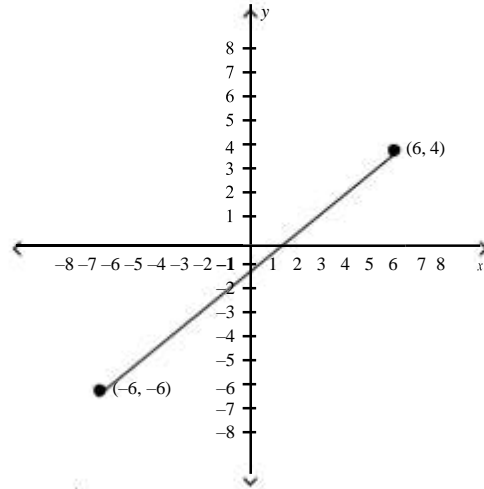
24. Find the slope-intercept form of the equation of the line passing through the points. Sketch the line.

$(6, 4), (-6, -6)$

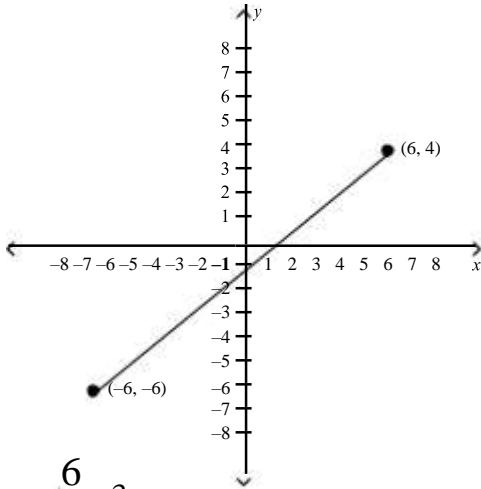
a.  $y = \frac{5}{6}x + 3$



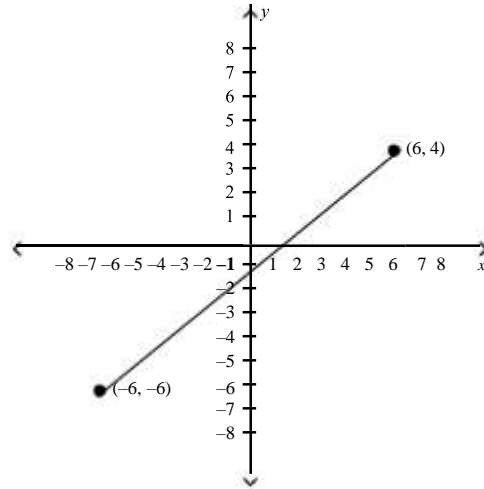
d.  $y = -\frac{5}{6}x + 3$



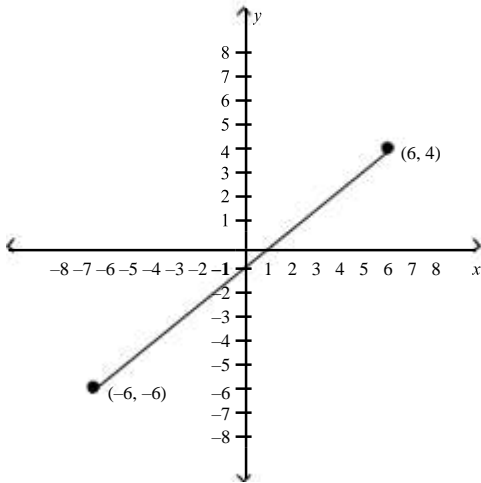
b.  $y = \frac{5}{6}x + 9$



e.  $y = \frac{5}{6}x - 4$



c.  $y = \frac{6}{5}x + 3$



ANS: B

PTS: 1

REF: 2.1.66

25. Determine whether the lines are parallel, perpendicular, or neither.

$$\frac{1}{3}x - 6$$

- a. Perpendicular
- b. Parallel
- c. Neither

ANS: B                      PTS: 1                      REF: 2.1.79

26. Determine whether the lines are parallel, perpendicular, or neither.

$$L1: y = \frac{1}{6}x - 6$$

$$L2: y = -\frac{1}{6}x - 6$$

- a. Parallel
- b. Perpendicular
- c. Neither

ANS: C                      PTS: 1                      REF: 2.1.81

27. Determine whether the lines are parallel, perpendicular, or neither.

$$L1: y = \frac{7}{8}x - 7$$

$$L2: y = -\frac{8}{7}x - 8$$

- a. Perpendicular
- b. Neither
- c. Parallel

ANS: A                      PTS: 1                      REF: 2.1.82

28. Use the *intercept form* to find the equation of the line with the given intercepts. The intercept form of the equation of a line with intercepts  $(a, 0)$  and  $(0, b)$  is

$$\frac{x}{a} + \frac{y}{b} = 1, a \neq 0, b \neq 0.$$

x-intercept: (3, 0)

y-intercept: (0, 8)

- a.  $3x + 8y - 24 = 0$
- b.  $8x + 3y - 24 = 0$
- c.  $3x + 8y + 24 = 0$



d.  $8x + 3y + 24 = 0$

e.  $8x - 3y - 24 = 0$

ANS: B

PTS: 1

REF: 2.1.97

29. Use the *intercept form* to find the equation of the line with the given intercepts. The intercept form of the equation of a line with intercepts  $(a, 0)$  and  $(0, b)$  is

$$\frac{x}{a} + \frac{y}{b} = 1, a \neq 0, b \neq 0.$$

x-intercept:  $(-3, 0)$

y-intercept:  $(0, 6)$

a.  $-3x + 6y + 18 = 0$

b.  $6x + 3y + 18 = 0$

c.  $6x - 3y + 18 = 0$

d.  $6x - 3y - 18 = 0$

e.  $-3x + 6y - 18 = 0$

ANS: C

PTS: 1

REF: 2.1.98

30. Use the *intercept form* to find the equation of the line with the given intercepts. The intercept form of the equation of a line with intercepts  $(a, 0)$  and  $(0, b)$  is

$$\frac{x}{a} + \frac{y}{b} = 1, a \neq 0, b \neq 0.$$

x-intercept:  $(\frac{1}{3}, 0)$

y-intercept:  $(0, -\frac{2}{3})$

a.  $6x + 3y - 2 = 0$

b.  $6x + 3y + 2 = 0$

c.  $-6x + 3y + 2 = 0$

d.  $-6x - 3y - 2 = 0$

e.  $6x - 3y + 2 = 0$

ANS: B

PTS: 1

REF: 2.1.99

31. Use the *intercept form* to find the equation of the line with the given intercepts. The intercept form of the equation of a line with intercepts  $(a, 0)$  and  $(0, b)$  is

$$\frac{x}{a} + \frac{y}{b} = 1, a \neq 0, b \neq 0.$$

x-intercept:  $(\frac{5}{7}, 0)$

y-intercept:  $(0, -2)$

- a.  $14x + 7y - 5 = 0$
- b.  $14x + 5y + 10 = 0$
- c.  $-14x - 7y - 5 = 0$
- d.  $-14x + 7y + 5 = 0$
- e.  $14x - 7y + 5 = 0$

ANS: B

PTS: 1

REF: 2.1.100

32. Use the *intercept form* to find the equation of the line with the given intercepts. The intercept form of the equation of a line with intercepts  $(a, 0)$  and  $(0, b)$  is

$$\frac{x}{a} + \frac{y}{b} = 1, a \neq 0, b \neq 0.$$

Point on line:  $(3, 2)$

x-intercept:  $(c, 0)$

y-intercept:  $(0, c), c \neq 0$

- a.  $-x + y - 5 = 0$
- b.  $x - y - 5 = 0$
- c.  $-x - y - 5 = 0$
- d.  $x + y - 5 = 0$
- e.  $x + y + 5 = 0$

ANS: D

PTS: 1

REF: 2.1.101

33. Use the *intercept form* to find the equation of the line with the given intercepts. The intercept form of the equation of a line with intercepts  $(a, 0)$  and  $(0, b)$  is

$$\frac{x}{a} + \frac{y}{b} = 1, a \neq 0, b \neq 0.$$

Point on line:  $(-6, 4)$

x-intercept:  $(c, 0)$

y-intercept:  $(0, c), c \neq 0$

- a.  $-x - y - 2 = 0$
- b.  $x + y - 2 = 0$
- c.  $x - y - 2 = 0$
- d.  $-x + y - 2 = 0$
- e.  $x + y - 4 = 0$

ANS: B

PTS: 1

REF: 2.1.102

34. The slopes of line representing annual sales  $y$  in terms of time  $x$  in years.  
Use the slopes to interpret any change in annual sales for a one-year increase in time.

The line has a slope of  $m = 134$ .

- a. No change in sales
- b. Sales decreasing 134 units/yr
- c. Sales increasing 134 units/yr
- d. None of the above

ANS: C

PTS:

REF: 2.1.111a

1

35. The slope of line representing annual sales  $y$  in terms of time  $x$  in years.  
Use the slopes to interpret any change in annual sales for a one-year increase in time.

The line has a slope of  $m = -60$ .

- a. Sales decreasing 60 units/yr
- b. No change in sales
- c. Sales increasing 60 units/yr
- d. None of the above

ANS: A

PTS:

REF: 2.1.111c

1

36. The slope of line representing daily revenues  $y$  in terms of time  $x$  in years.  
Use the slopes to interpret any change in daily revenues for a one-day increase in time..

The line has a slope of  $m = 100$ .

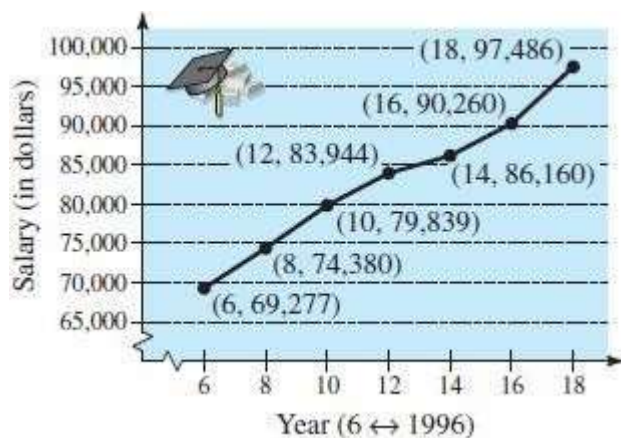
- a. Sales increasing 100 units/day
- b. Sales decreasing 100 units/day
- c. No change in sales
- d. None of the above

ANS: A

PTS: 1

REF: 2.1.112a

37. The graph shows the average salaries for senior high school principals from 1996 through 2008.



Find the slope of the line segment connecting the points for the years 1998 and 2002.

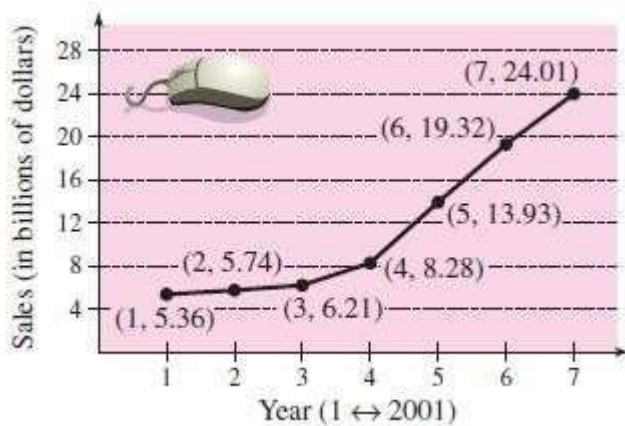
- a. 2734.5
- b. -2732.5
- c. 2729.5
- d. -2729.5
- e. 2730.5

ANS: C

PTS: 1

REF: 2.1.113b

38. The graph shows the sales (in billions of dollars) for Apple Inc. for the years 2001 through 2007.



Find the slope of the line segment connecting the points for the years 2004 and 2005. Round your answer to two decimal places.

- a. -5.65
- b. 5.65
- c. 6.65
- d. 10.65
- e. -8.65

ANS: B

PTS: 1

REF: 2.1.114b

39. You are driving on a road that has a 7% uphill grade (see figure). This means that the slope

$$\frac{7}{100}$$

of the road is  $\frac{7}{100}$ . Approximate the amount of vertical change in your position if you drive 400 feet.

- a. 26 ft
- b. 29 ft
- c. 30 ft
- d. 27 ft
- e. 28 ft

ANS: E

PTS: 1

REF: 2.1.115

40. A sub shop purchases a used pizza oven for \$895. After 5 years, the oven will have to be replaced. Write a linear equation giving the value  $V$  of the equipment during the 5 years it will be in use.

- a.  $V = -179 + 895t$
- b.  $V = -179t - 895$
- c.  $V = 179t - 895$
- d.  $V = 179t + 895$
- e.  $V = -179t + 895$

ANS: E                      PTS: 1                      REF: 2.1.121

41. A school district purchases a high-volume printer, copier, and scanner for \$21,000. After 10 years, the equipment will have to be replaced. Its value at that time is expected to be \$2,500. Write a linear equation giving the value of the equipment during the 10 years it will be in use.

- a.  $V = -1850t + 21,000$
- b.  $V = 1850t - 21,000$
- c.  $V = 1850t + 21,000$
- d.  $V = -1850 + 21,000t$
- e.  $V = -1850t - 21,000$

ANS: A                      PTS: 1                      REF: 2.1.122

42. A discount outlet is offering a 60% discount on all items. Write a linear equation giving the sale price  $S$  for an item with a list price  $L$ .

- a.  $L = 0.6S$
- b.
- c.
- d.
- e.

ANS: D                      PTS: 1                      REF: 2.1.123

43. A microchip manufacturer pays its assembly line workers \$15.25 per hour. In addition, workers receive a piecework rate of \$0.3 per unit produced. Write a linear equation for the hourly wage  $W$  in terms of the number of units  $x$  produced per hour.

- a.  $W = 15.55x$
- b.  $x = 15.25W$
- c.  $W = 15.25x$
- d.  $x = 15.55W$
- e.  $x = 15.85W$

ANS: A                      PTS: 1                      REF: 2.1.124

44. A pharmaceutical salesperson receives a monthly salary of \$2100 plus a commission of 3% of sales. Write a linear equation for the sales-person's monthly wage  $W$  in terms of monthly sales  $S$ .

- a.  $W = -0.03S + 2100$
- b.  $W = -0.03S - 2100$
- c.  $W = 0.03S + 2100$
- d.  $S = 0.03W - 2100$
- e.  $S = 0.03W + 2100$

ANS: C                      PTS: 1                      REF: 2.1.125

45. A sales representative of a company using a personal car receives \$110 per day for lodging and meals plus \$0.55 per mile driven. Write a linear equation giving the daily cost  $C$  to the company in terms of  $x$ , the number of miles driven.

- a.  $C = 0.55 + 110x$
- b.  $C = 0.55x + 110$
- c.  $C = -0.55x - 110$
- d.  $C = 0.55x - 110$
- e.  $C = -0.55x + 110$

ANS: B                      PTS: 1                      REF: 2.1.126

46. A real estate office handles an apartment complex with 50 units. When the rent per unit is \$520 per month, all 70 units are occupied. However, when the rent is \$625 per month, the average number of occupied units drops to 46. Assume that the relationship between the monthly rent  $p$  and the demand  $x$  is linear.

Write the equation of the line giving the demand  $x$  in terms of the rent  $p$ .

- a.  $y = \frac{35}{8}x - 188.86$
- b.  $y = 105x + 188.86$
- c.  $y = \frac{8}{35}x + 188.86$
- d.  $y = \frac{35}{8}x + 188.86$
- e.  $y = 24x + 188.86$

ANS: C                      PTS: 1                      REF: 2.1.132a

47. The length and width of a rectangular garden are 14 meters and 12 meters, respectively. A walkway of width  $x$  surrounds the garden.

Write the equation for the perimeter  $y$  of the walkway in terms of  $x$ .

- a.  $y = 8x + 52$
- b.  $y = 8x - 52$
- c.  $y = 8x + 26$
- d.  $y = 4x + 52$
- e.  $y = 4x + 26$

ANS: A                      PTS: 1                      REF: 2.1.133b

48. Determine whether the statement is true or false. Justify your answer.

A line with a slope of  $-\frac{5}{7}$  is steeper than a line with a slope of  $-\frac{6}{7}$ .

- a. True. The slope with the smallest magnitude corresponds to the steepest line.  
b. False. The slope with the greatest magnitude corresponds to the steepest line.

ANS: B                      PTS: 1                      REF: 2.1.137

49. Write the slope-intercept form of the equation of the line through the given point perpendicular to the given line.

point:  $(-7, -8)$

line:  $-9x - 45y = 9$

- a.  $y = \frac{1}{9}x - \frac{65}{9}$   
b.  $y = 5x - \frac{43}{5}$   
c.  $y = 5x + 27$   
d.  $y = -9x + 55$   
e.  $y = -\frac{1}{5}x - \frac{47}{5}$

ANS: C                      PTS: 1                      REF: 2.1.87

OBJ: Find equation of line perpendicular to another line through given point

50. Gretel's Computer Repair Store purchases a network server for \$1145. The machine has a useful life of 5 years after which time another one will have to be purchased. Assume depreciation of the machine is linear. Write a linear equation giving the value  $V$  of the network server during the 5 years it will be in use.

a.

b.  $V = 229t - 1145$

c.  $V = -\frac{1}{229}t + 5$

d.  $V = \frac{1}{229}t + 5$

e.

ANS: E                      PTS: 1                      REF: 2.1.121

OBJ: Use linear equations to model real-life data