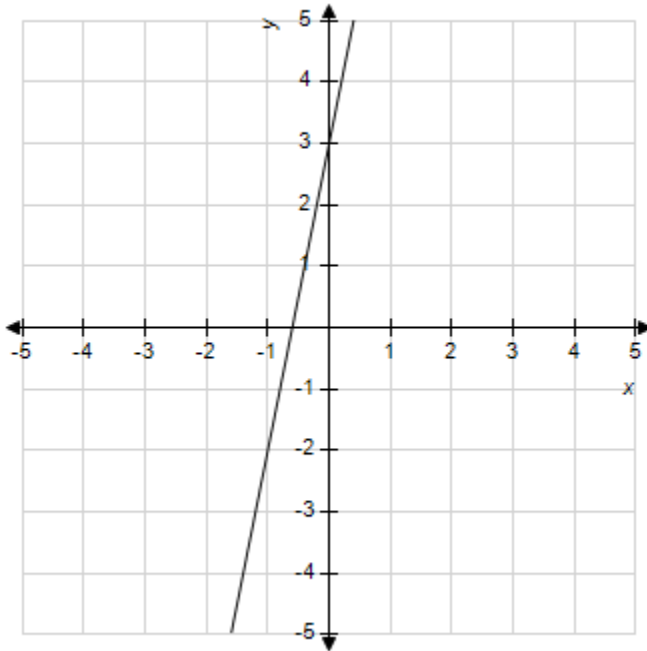


Section 1.2

1. Estimate the slope of the line from the graph.



- a. $-\frac{1}{5}$
- b. 5
- c. 2
- d. $-\frac{1}{2}$
- e. $\frac{1}{5}$

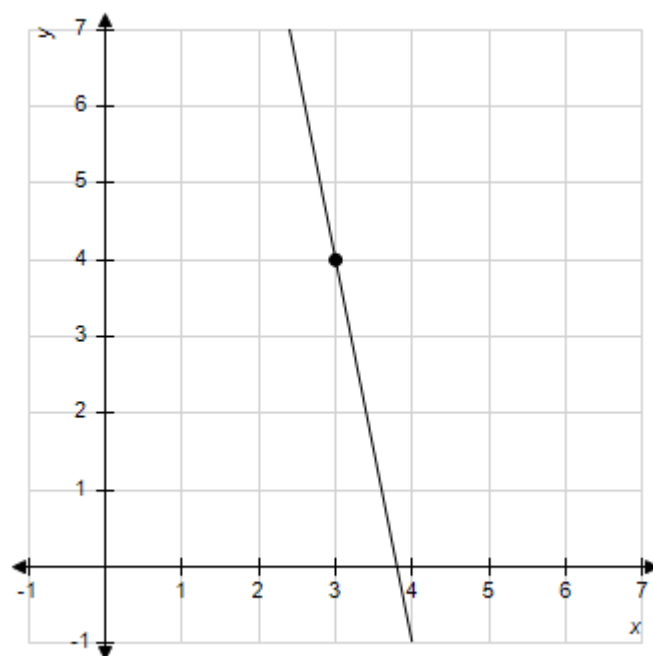
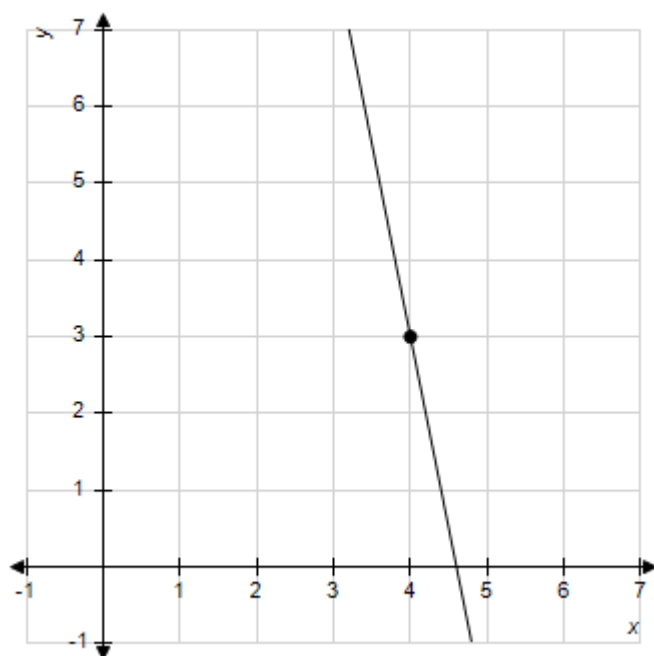
ANSWER:

b

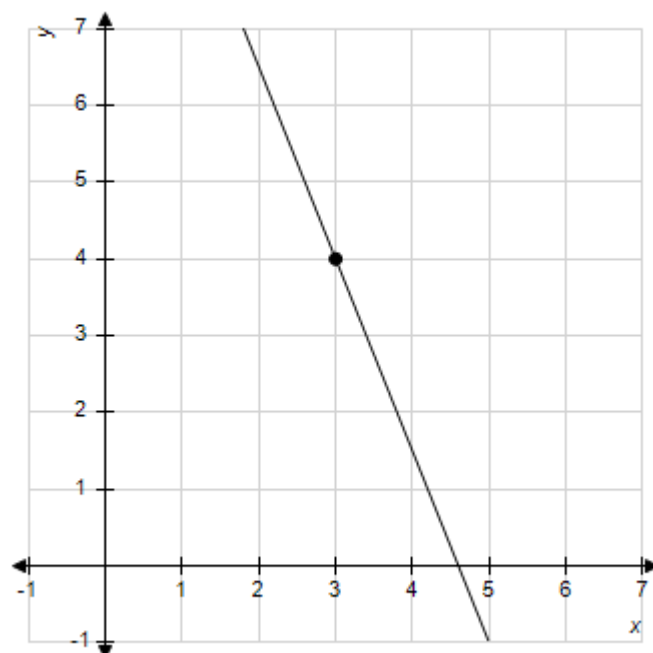
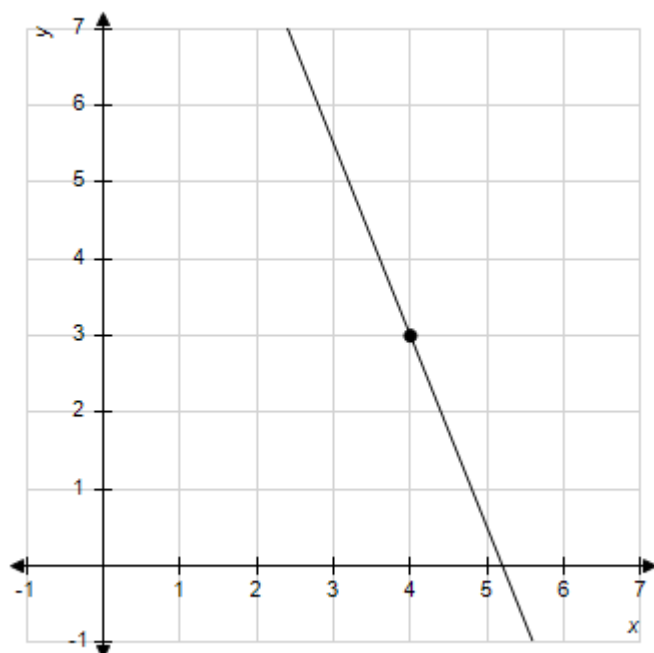
2. Sketch the line passing through the point (3, 4) with the slope $-\frac{5}{2}$.

Section 1.2

a

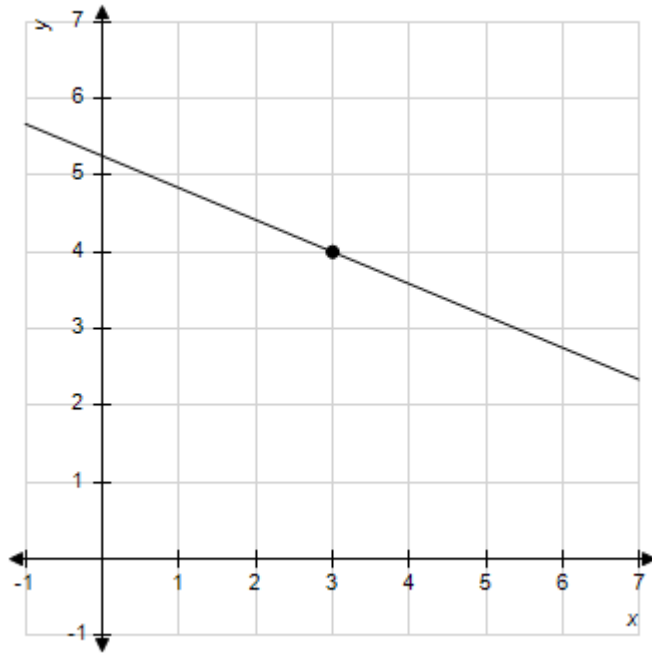


c



Section 1.2

e



ANSWER:

d

3. Find the slope of the line passing through the pair of points.

$(-1, 9), (10, -12)$

- a. $-\frac{11}{21}$
- b. $-\frac{21}{11}$
- c. $\frac{11}{21}$
- d. $\frac{21}{11}$
- e. 0

ANSWER:

b

4. Find the slope of the line passing through the points $\left(-\frac{1}{9}, \frac{9}{5}\right)$ and $\left(-\frac{5}{9}, \frac{1}{45}\right)$.

- a. 26
- b. -5

Section 1.2

- c. $\frac{4}{1}$
d. 5
e. $-\frac{4}{1}$

ANSWER:

c

5. If a line has slope $m = -1$ and passes through the point $(3, 8)$, through which of the following points does the line also pass?

- a. (1, 10)
b. (1, 2)
c. (1, 4)
d. (8, -5)
e. (8, 0)

ANSWER:

a

6. A moving conveyor is built to rise 8 meters for every 11 meters of horizontal change. Find the slope of the conveyor.

- a. 0
b. $\frac{8}{11}$
c. $\frac{11}{8}$
d. $-\frac{11}{8}$
e. $-\frac{8}{11}$

ANSWER:

b

7. A moving conveyor is built to rise 1 meter for every 3 meters of horizontal change. Suppose the conveyor runs between two floors in a factory. Find the length of the conveyor if the vertical distance between floors is 10 meters. Round your answer to the nearest meter.

- a. 41 meters
b. 17 meters
c. 32 meters
d. 30 meters
e. 22 meters

ANSWER:

c

8. Find the slope of the line $x + 4y = 20$.

Section 1.2

- a. $\frac{1}{4}$
- b. $-\frac{1}{5}$
- c. $\frac{1}{5}$
- d. $-\frac{1}{20}$
- e. $-\frac{1}{4}$

ANSWER:

e

9. Find the y-intercept of the line $x + 2y = 14$.

- a. (0, 7)
- b. (0, 2)
- c. (0, 14)
- d. (2, 0)
- e. (7, 0)

ANSWER:

a

10. Find an equation of the line that passes through the point (2, 7) and has the slope m that is undefined.

- a. $y = 2$
- b. $x = 2$
- c. $y = 7$
- d. $x = 7$
- e. $y = 2x$

ANSWER:

b

11. Find an equation of the line that passes through the point (7, 4) and has the slope $m = -\frac{2}{3}$.

- a. $y = -\frac{2}{3}x - \frac{26}{3}$
- b. $y = -\frac{2}{3}x + \frac{26}{3}$
- c. $y = -\frac{2}{3}x + 6,084$

Section 1.2

d. $y = -\frac{2}{3}x$

e. $y = \frac{2}{3}x$

ANSWER:

b

12. Find an equation of the line that passes through the points $(33, 9)$ and $(-22, 14)$.

a. $y = -\frac{1}{11}x - 12$

b. $y = -\frac{1}{11}x - 12$

c. $y = \frac{1}{11}x + 12$

d. $y = -\frac{1}{11}x + 12$

e. $y = -\frac{1}{11}$

ANSWER:

d

13. Find an equation of the line that passes through the points $\left(-\frac{5}{3}, -\frac{29}{9}\right)$ and $\left(-\frac{7}{10}, -\frac{29}{15}\right)$.

a. $y = \frac{4}{3}x$

b. $y = \frac{4}{3}x + 1$

c. $y = \frac{4}{3}x + 2$

d. $y = \frac{4}{3}x - 2$

e. $y = \frac{4}{3}x - 1$

ANSWER:

e

14. Use the result, “the line with intercepts $(a, 0)$ and $(0, b)$ has the equation $\frac{x}{a} + \frac{y}{b} = 1$, $a \neq 0$, $b \neq 0$,” to write an equation of the line with x -intercept $(9, 0)$ and y -intercept $(0, 4)$.

Section 1.2

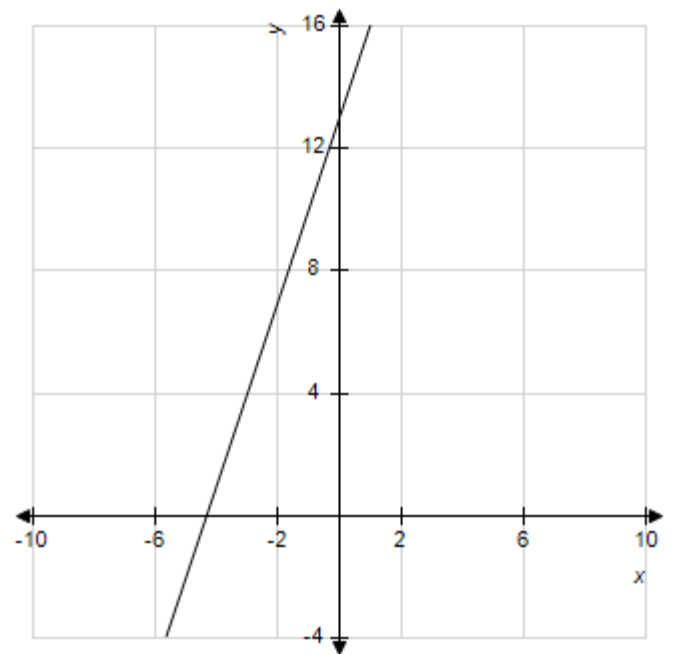
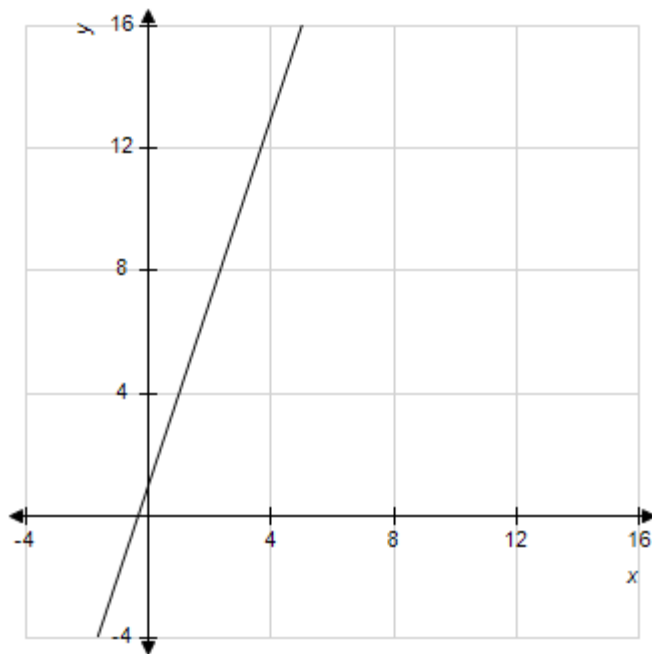
- a. $9x - 4y - 9 = 0$
- b. $4x - 9y + 4 = 0$
- c. $9x + 4y + 9 = 0$
- d. $4x + 9y + 36 = 0$
- e. $4x + 9y - 36 = 0$

ANSWER:

e

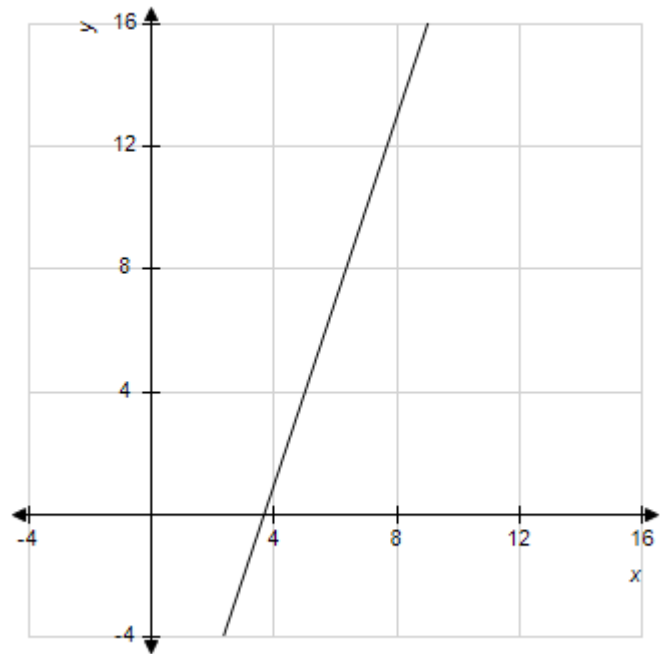
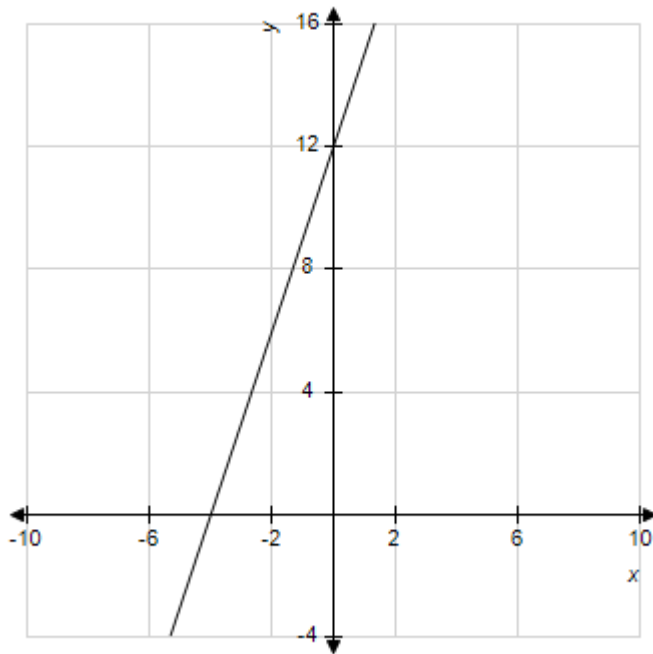
15. Sketch a graph of the equation $y - 1 = 3(x + 4)$.

a

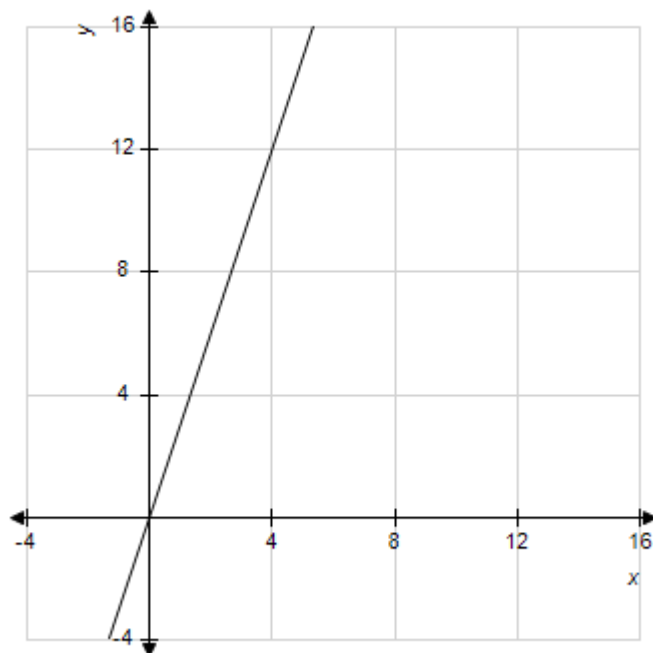


Section 1.2

c



e



ANSWER:

b

16. Write an equation of the line that passes through the given point and is perpendicular to the given line.

Section 1.2

Point Line

$(8, 9)$ $x = -7$

- a. $y = -9$
- b. $y = 8$
- c. $y = 9$
- d. $x = 8$
- e. $x = -8$

ANSWER:

c

17. Write an equation of the line that passes through the given point and is parallel to the given line.

Point Line

$(-8, -1)$ $-4x + 9y = 96$

- a. $-4x + 9y = 23$
- b. $-4x + 9y = 76$
- c. $4x + 9y = 23$
- d. $-4x - 9y = 41$
- e. $4x + 9y = 76$

ANSWER:

a

18. Write an equation of the line that passes through the point $(-7, 5)$ and is perpendicular to the line $x + y = 3$.

- a. $x - y + 12 = 0$
- b. $x - y + 2 = 0$
- c. $x + y - 2 = 0$
- d. $x + y + 12 = 0$
- e. $x + y - 3 = 0$

ANSWER:

a

19. Write an equation of the line that passes through the point $\left(\frac{3}{8}, \frac{7}{16}\right)$ and is parallel to the line $4x - 3y = 0$.

- a. $64x - 48y - 3 = 0$
- b. $64x + 24y - 3 = 0$
- c. $64x - 16y + 3 = 0$
- d. $64x + 3y + 3 = 0$
- e. $64x + 8y - 3 = 0$

Section 1.2

ANSWER:

a

20. Suppose that the dollar value of a product in 2008 is \$162 and the rate at which the value of the product is expected to increase per year during the next 5 years is \$5.5. Write a linear equation that gives the dollar value V of the product in terms of the year t . (Let $t = 0$ represent 2000.) Round the numerical values in your answer to one decimal place, where applicable.

- a. $V = 5.5t - 151$
- b. $V = -5.5t - 118$
- c. $V = -5.5t + 162$
- d. $V = 5.5t + 118$
- e. $V = 5.5t - 140$

ANSWER:

d

21. Find an equation of the line through the points of intersection of $y = x^2$ and $y = 4x - x^2$.

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

ANSWER:

d

22. A company reimburses its sales representatives \$135 per day for lodging and meals plus 41¢ per mile driven. Write a linear equation giving the daily cost C to the company in terms of x , the number of miles driven. Round the numerical values in your answer to two decimal places, where applicable.

- a. $C = -1.35x + 41$
- b. $C = 0.41x + 135$
- c. $C = -0.41x - 135$
- d. $C = 0.41x - 135$
- e. $C = 1.35x - 41$

ANSWER:

b

23. A company reimburses its sales representatives \$195 per day for lodging and meals plus 52¢ per mile driven. How much does it cost the company if a sales representative drives 135 miles on a given day? Round your answer to the nearest cent.

- a. 296.40
- b. 265.20
- c. 136.35

Section 1.2

- d. 196.35
e. 205.20

ANSWER:

b

24. A real estate office handles an apartment complex with 50 units. When the rent is \$650 per month, all 50 units are occupied. However, when the rent is \$695, the average number of occupied units drops to 47. Assume that the relationship between the monthly rent p and the demand x is linear. Write a linear equation giving the demand x in terms of the rent p .

- a. $x = \frac{1}{15}(1445 - p)$
b. $x = \frac{1}{15}(1355 + p)$
c. $x = \frac{1}{45}(1400 + p)$
d. $x = \frac{1}{15}(1400 - p)$
e. $x = \frac{1}{45}(1445 - p)$

ANSWER:

d

25. A real estate office handles an apartment complex with 50 units. When the rent is \$770 per month, all 50 units are occupied. However, when the rent is \$815, the average number of occupied units drops to 47. Assume that the relationship between the monthly rent p and the demand x is linear. Predict the number of units occupied if the rent is raised to \$845.

- a. 42 units
b. 55 units
c. 58 units
d. 48 units
e. 45 units

ANSWER:

e

26. Find the distance between the point $(-4, 7)$ and line $x - y - 2 = 0$ using the formula, $\text{Distance} = \frac{|Ax_1 + By_1 + C|}{\sqrt{A^2 + B^2}}$ for the distance between the point (x_1, y_1) and the line $Ax + By + C = 0$.

- a. $\frac{11\sqrt{2}}{2}$

Name _____ Class _____ Date _____
: _____ : _____ e: _____

Section 1.2

b. $\frac{4\sqrt{3}}{3}$

c. $\frac{13\sqrt{2}}{2}$

d. $\frac{9\sqrt{2}}{2}$

ANSWER:

c