

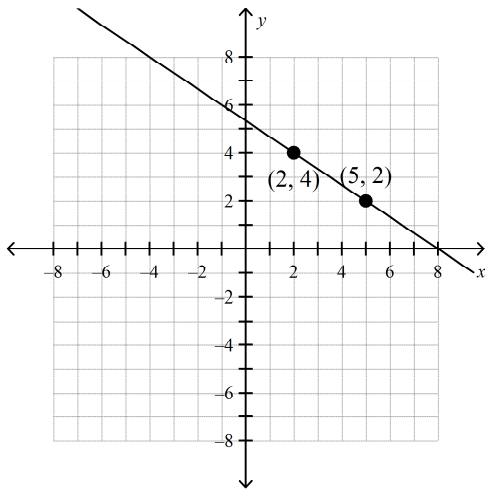
A

Chapter 5 Slope and Variation

Multiple Choice

Identify the choice that best completes the statement or answers the question.

1. Tell whether the slope is positive or negative. Then, find the slope.



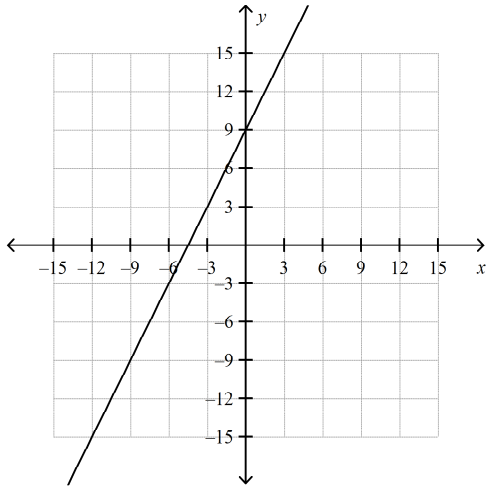
- a. positive; $\frac{2}{3}$ b. positive; $\frac{2}{5}$ c. negative; $-\frac{2}{3}$ d. negative; $-\frac{3}{2}$

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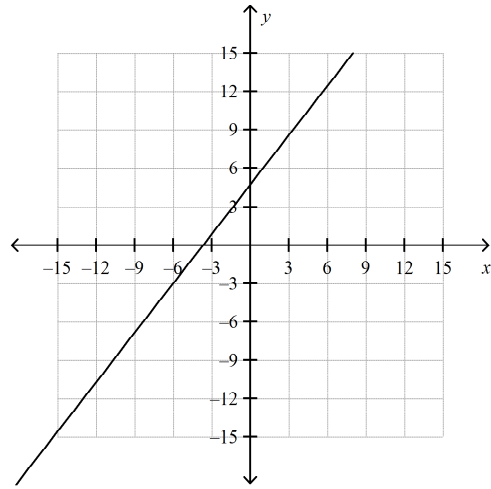
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2. Use the slope of 2 and the point $(-6, -3)$ to graph the line.

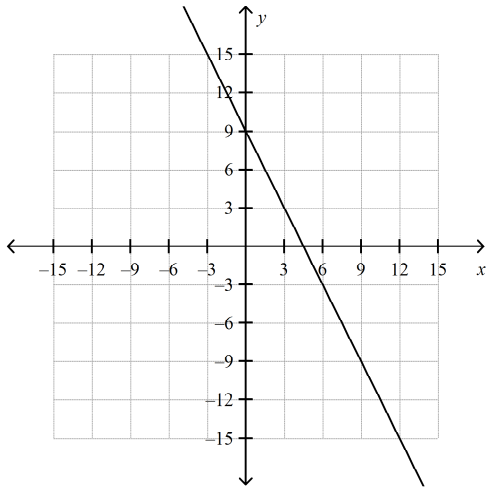
a.



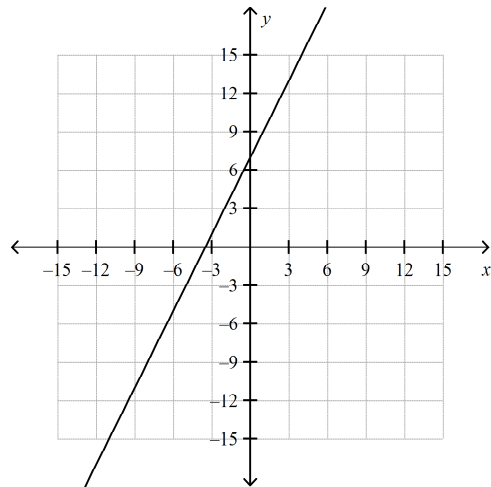
b.



c.

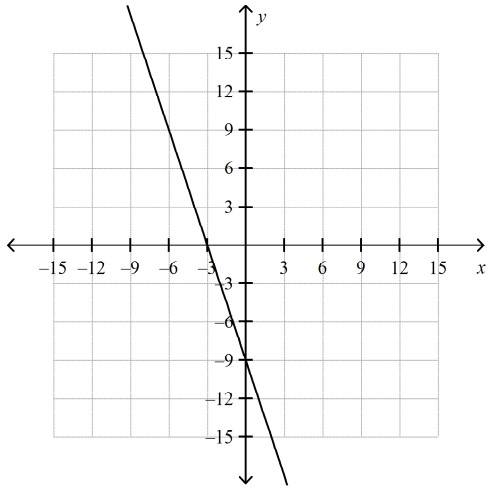


d.

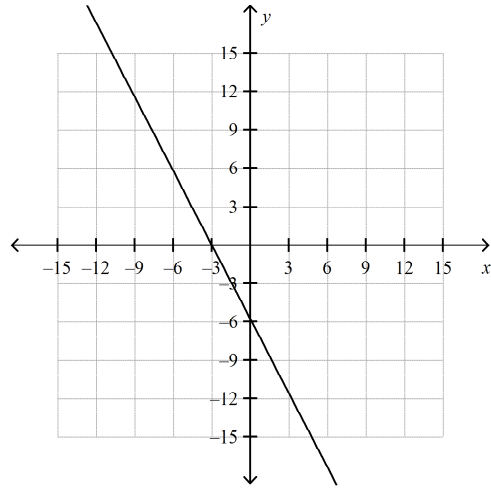


3. Use the slope of -3 and the point $(-3, 0)$ to graph the line.

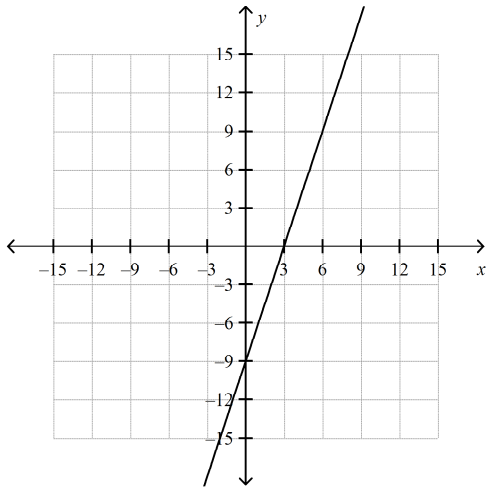
a.



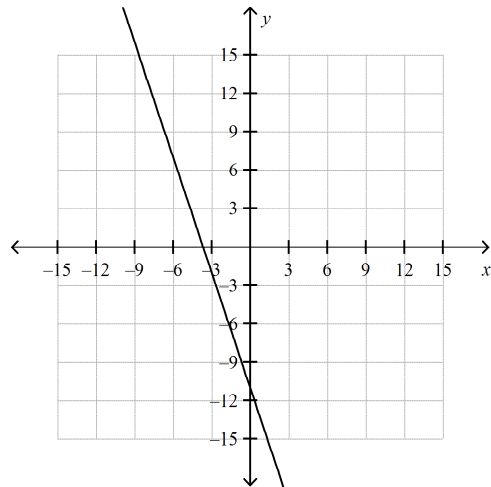
b.



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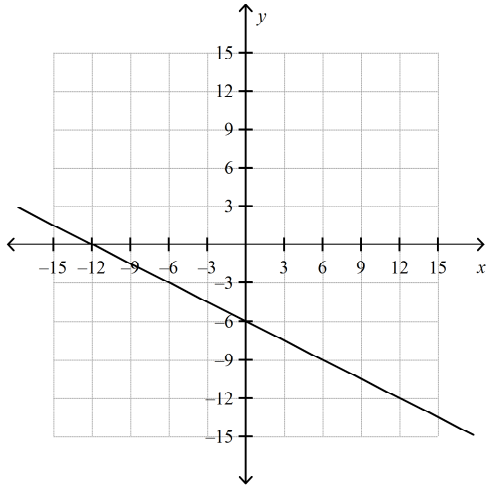


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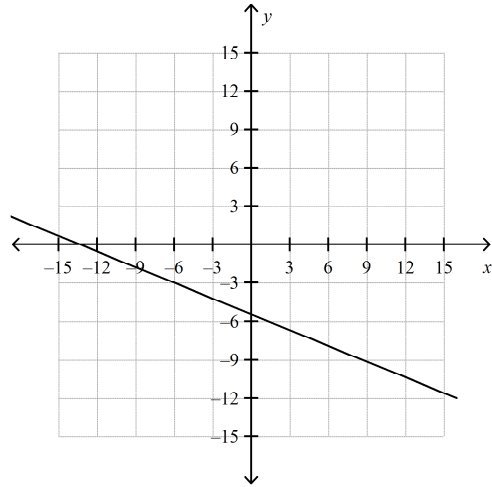
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4. Use the slope of $-\frac{1}{2}$ and the point $(-6, -3)$ to graph the line.

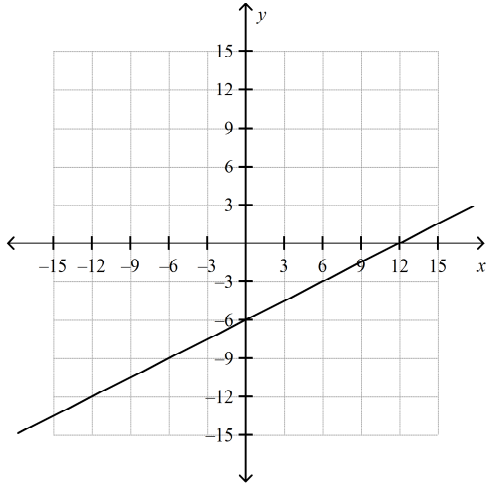
a.



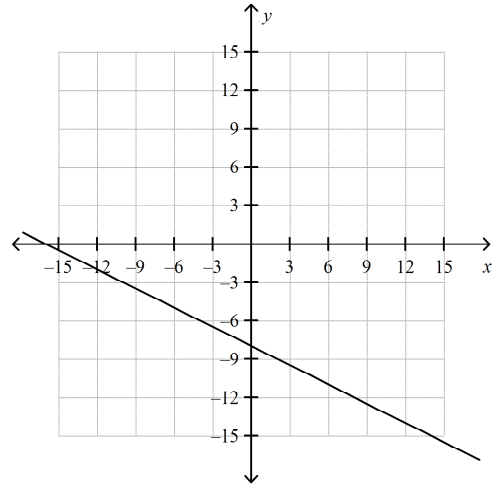
b.



c.



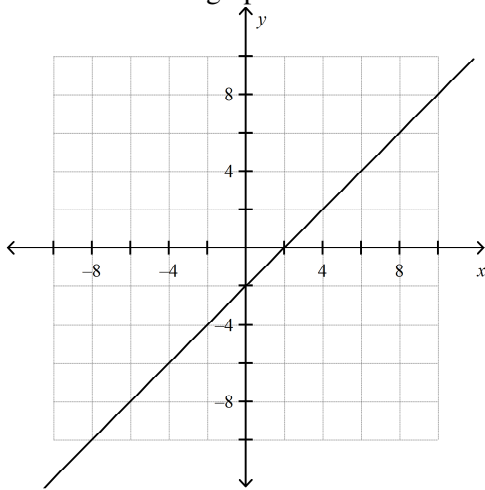
d.



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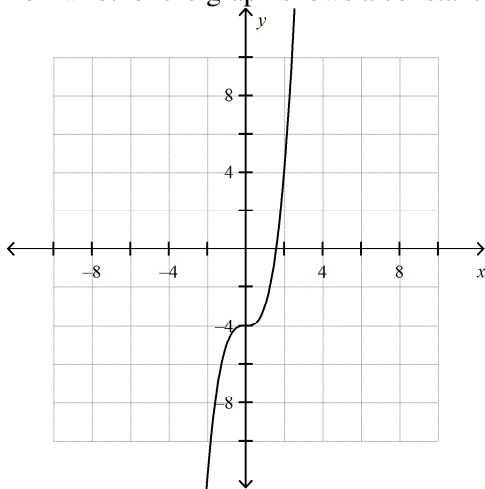
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5. Tell whether the graph shows a constant or variable rate of change.



a. variable rate of change b. constant rate of change

6. Tell whether the graph shows a constant or variable rate of change.

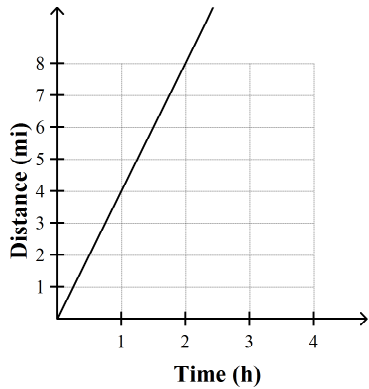


a. constant rate of change b. variable rate of change

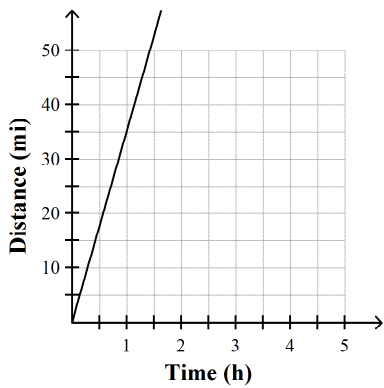
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7. The graph shows the distance Julie walks over time. Does she walk at a constant or variable speed? How fast is Julie walking?

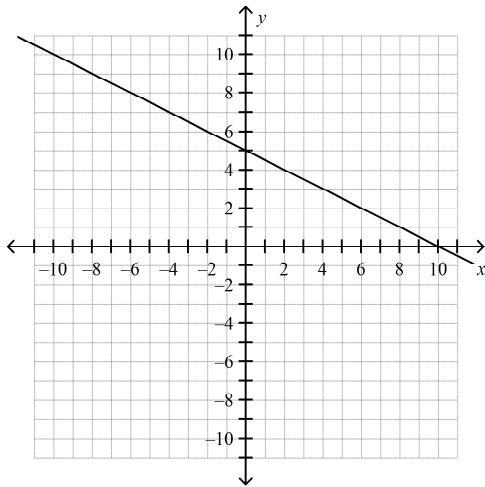


- a. variable speed; 8 mi/h b. constant speed; 2 mi/h c. constant speed; 4 mi/h d. constant speed; 8 mi/h
8. The graph shows the distance a boat is traveling over time. Does the boat travel at a constant or variable speed? How fast is the boat traveling?



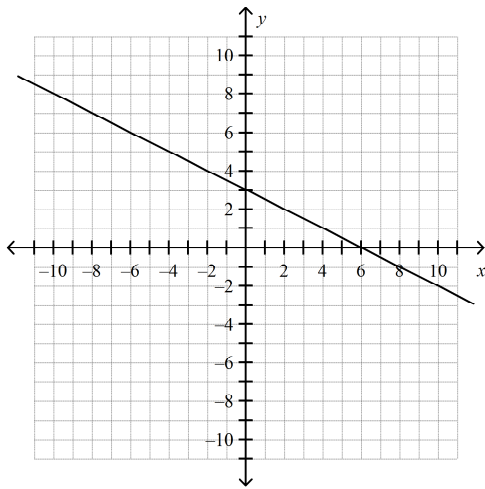
- a. constant speed; 17.5 mi/h b. constant speed; 70 mi/h c. constant speed; 35 mi/h d. variable speed; 70 mi/h

9. Find the x - and y -intercepts.



- a. x -intercept: -10 , y -intercept: 5 b. x -intercept: 5 , y -intercept: 10 c. x -intercept: 10 , y -intercept: -5
 d. x -intercept: 10 , y -intercept: 5

10. Find the x - and y -intercepts.



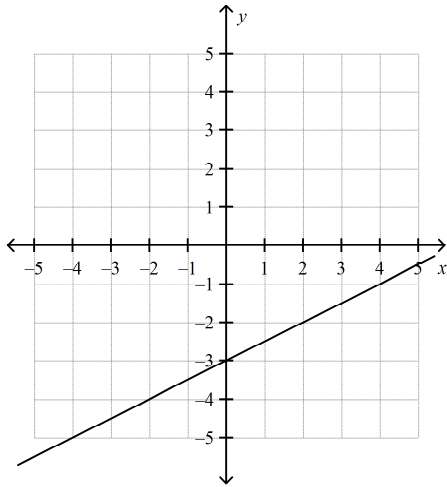
- a. x -intercept: -6 , y -intercept: 3 b. x -intercept: 3 , y -intercept: 6 c. x -intercept: 6 , y -intercept: -3
 d. x -intercept: 6 , y -intercept: 3

Name: _____

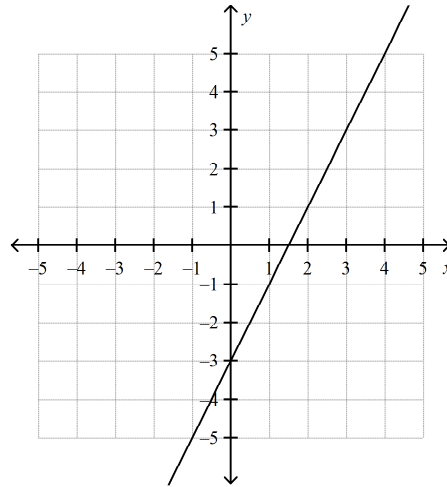
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11. Graph the equation $y = \frac{1}{2}x - 3$.

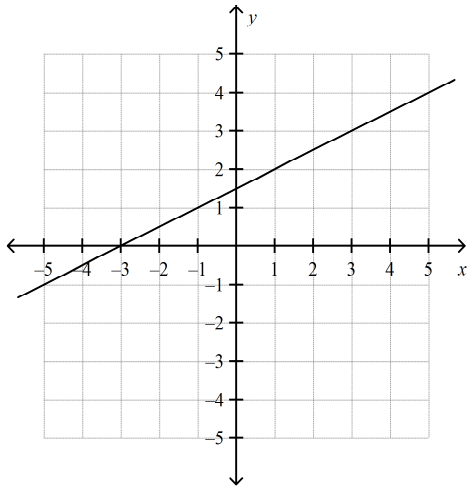
a.



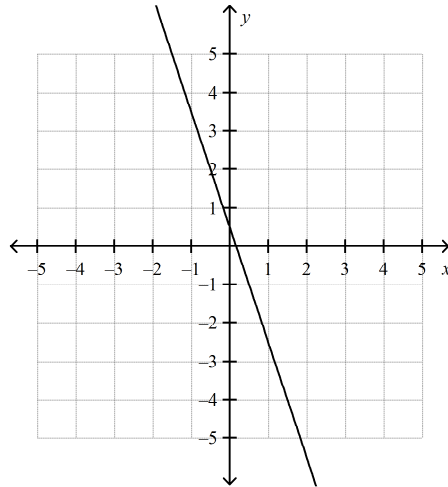
b.



c.



d.

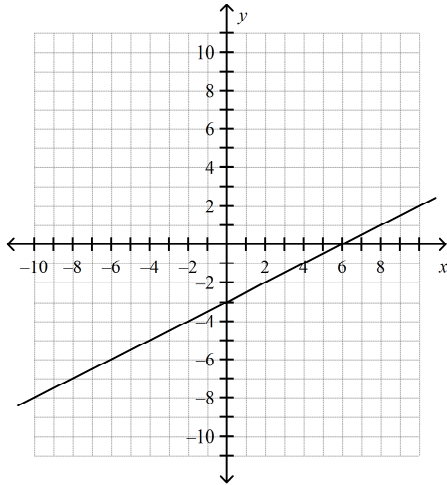


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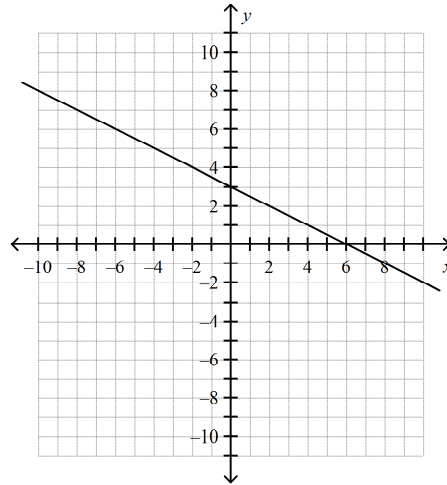
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12. Write the equation $4x + 8y = -24$ in slope-intercept form. Then graph the equation.

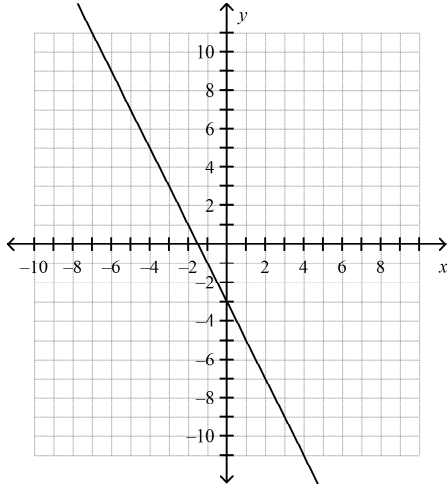
a. $y = -\frac{1}{2}x - 3$



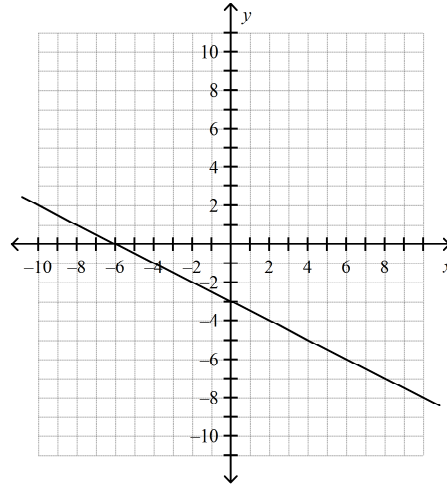
c. $y = -\frac{1}{2}x - 3$



b. $y = -\frac{1}{2}x - 3$



d. $y = -\frac{1}{2}x - 3$

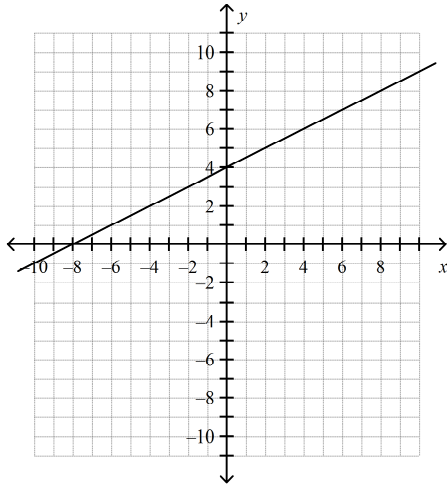


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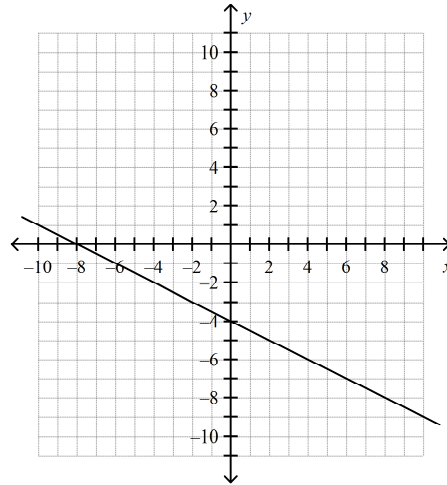
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13. Write the equation $5x + 10y = 40$ in slope-intercept form. Then graph the equation.

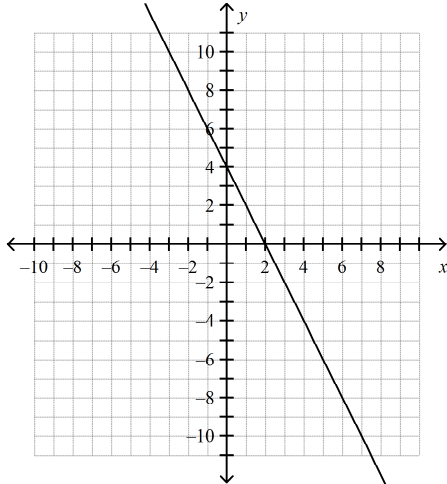
a. $y = -\frac{1}{2}x + 4$



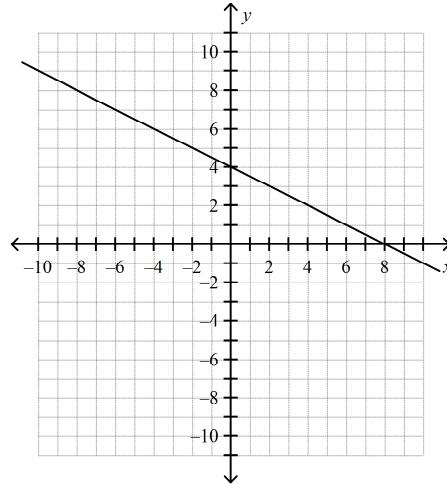
c. $y = -\frac{1}{2}x + 4$



b. $y = -\frac{1}{2}x + 4$



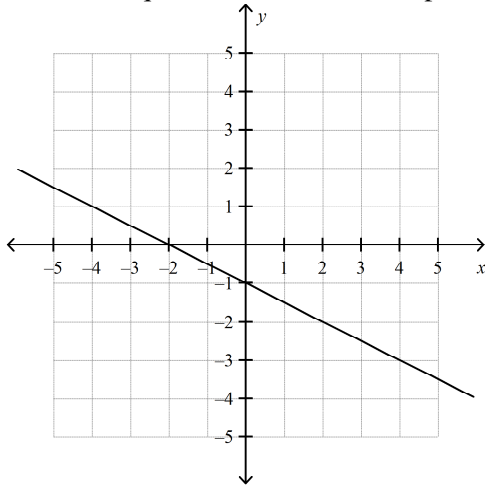
d. $y = -\frac{1}{2}x + 4$



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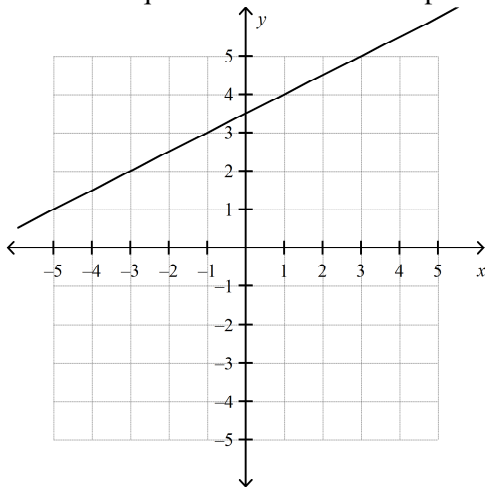
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14. Write the equation of the line in slope-intercept form.



- a. $y = \frac{1}{2}x - 1$ b. $y = -\frac{1}{2}x - 1$ c. $y = -2x - 2$ d. $y = -\frac{1}{2}x + 1$

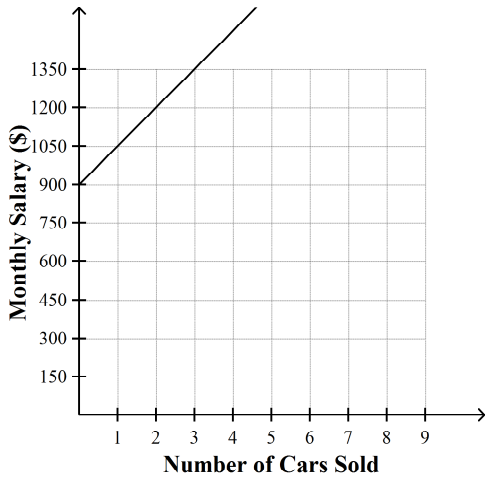
15. Write the equation of the line in slope-intercept form.



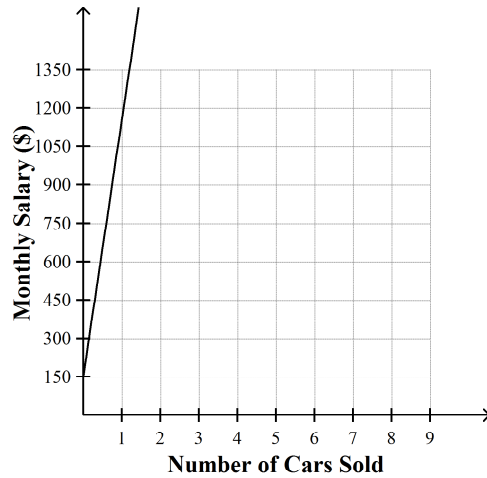
- a. $y = -\frac{1}{2}x + \frac{7}{2}$ b. $y = \frac{1}{2}x + \frac{7}{2}$ c. $y = 2x - 7$ d. $y = \frac{1}{2}x - \frac{7}{2}$

16. A car salesperson earns a monthly salary of \$1000 per month plus \$150 for each car sold. The equation $y = 150x + 1000$ represents the total monthly salary. Graph the equation using the slope and y-intercept.

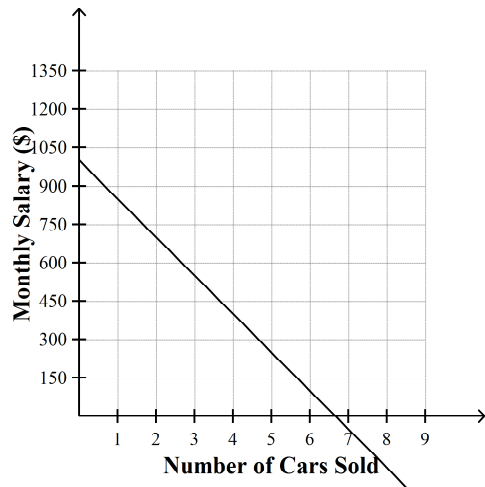
a.



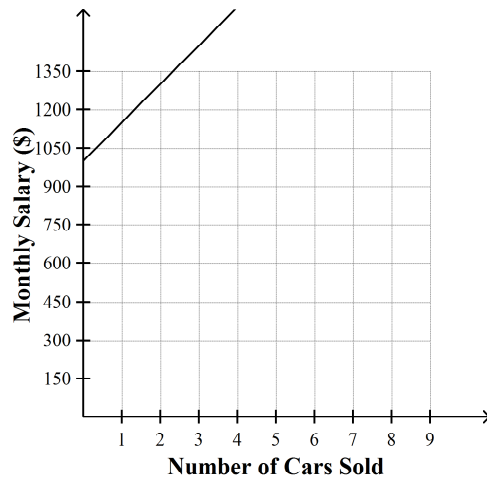
b.



c.



d.



17. Tell whether the equation $-4x + 2y = -2$ represents a direct variation. If so, identify the constant of variation.

- a. not a direct variation b. direct variation; $k = -2$ c. direct variation; $k = 2$ d. direct variation; $k = \frac{1}{2}$

18. Tell whether the equation $2x + 4y = 0$ represents a direct variation. If so, identify the constant of variation.

- a. direct variation; $k = -\frac{1}{2}$ b. direct variation; $k = 0$ c. not a direct variation d. direct variation; $k = -2$

Name: _____

ID: A

19. Tell whether the data sets show a direct variation.

Bookshelf Length (in)	Number of Books
11	22
13	26
14	28
20	40
21	42

a. no b. yes

20. Tell whether the data sets show a direct variation.

Bookshelf Length (in)	Number of Books
10	20
13	26
15	30
17	34
21	42

a. no b. yes

21. Tell whether the data sets show a direct variation. If so, identify the constant of variation.

Number of Baskets	Cost
3	\$12
5	\$20
6	\$24
8	\$32
15	\$60

a. not a direct variation b. direct variation; $k = 9$ c. direct variation; $k = \frac{1}{4}$ d. direct variation; $k = 4$

Name: _____

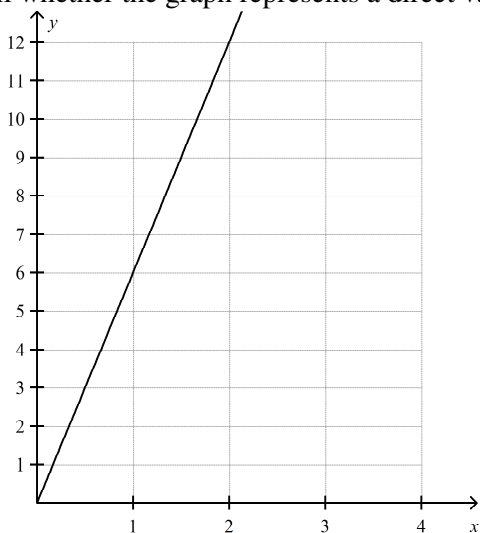
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22. Tell whether the data sets show a direct variation. If so, identify the constant of variation.

Number of Baskets	Cost
2	\$8
7	\$28
9	\$36
11	\$44
15	\$60

- a. not a direct variation b. direct variation; $k = 6$ c. direct variation; $k = \frac{1}{4}$ d. direct variation; $k = 4$

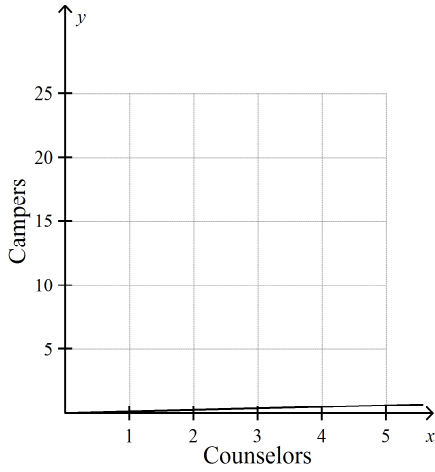
23. Tell whether the graph represents a direct variation. If so, write the equation of direct variation.



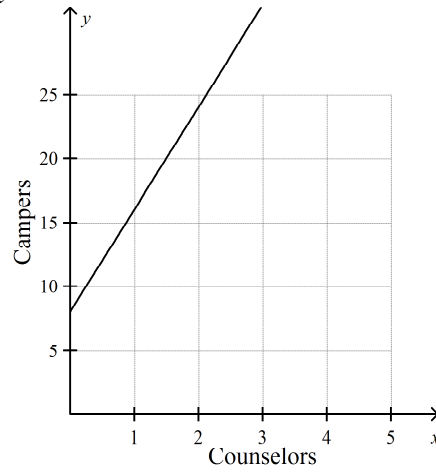
- a. direct variation; $x = 6y$ c. direct variation; $y = 6x$
b. not a direct variation d. direct variation; $y = 6x + 6$

24. At a summer camp there is one counselor for every 8 campers. Write an equation for the number of campers, y , that there are for x counselors. Then graph.

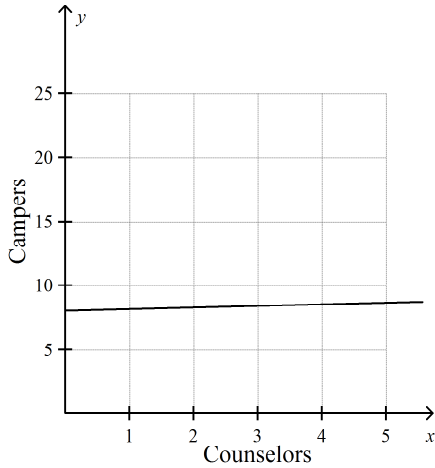
a. $y = \frac{x}{8}$



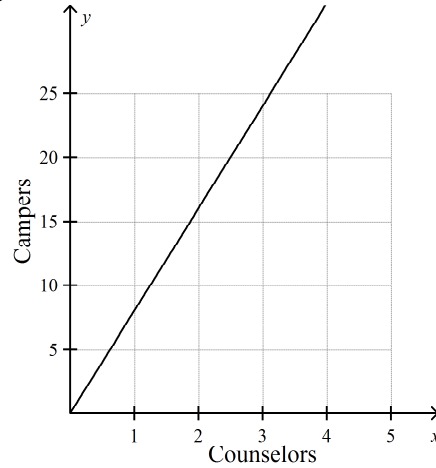
c. $y = 8x$



b. $y = 8x + 8$



d. $y = 8x$



25. Tell whether the relationship is an inverse variation.

x	y
3	2400
5	1440
6	1200
8	900
10	720

a. yes b. no

26. Tell whether the relationship is an inverse variation.

x	y
2	3651
5	1440
8	903
9	800
10	720

- a. no b. yes

27. Tell whether the relationship is an inverse variation. Explain.

x	y
2	409
3	240
4	194

- a. The product xy is constant, so the relationship is not an inverse variation. b. The product xy is not constant, so the relationship is an inverse variation. c. The product xy is constant, so the relationship is an inverse variation. d. The product xy is not constant, so the relationship is not an inverse variation.

28. Tell whether the relationship is an inverse variation. Explain.

x	y
2	758
3	480
5	307

- a. The product xy is constant, so the relationship is not an inverse variation. b. The product xy is not constant, so the relationship is an inverse variation. c. The product xy is constant, so the relationship is an inverse variation. d. The product xy is not constant, so the relationship is not an inverse variation.

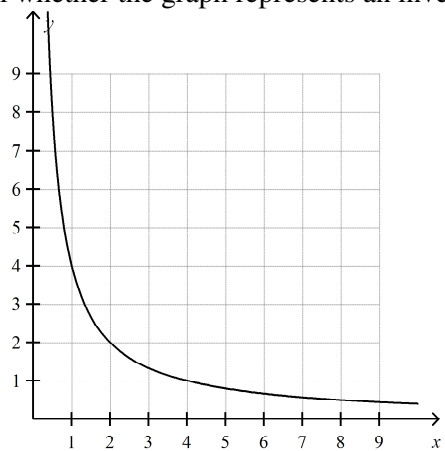
29. The frequency of a radio wave varies inversely as its wavelength. If a 300-meter wave has a frequency of 1,000 kilohertz, what is the wavelength of a wave that has a frequency of 150 kilohertz? Round your answer to the nearest meter.

- a. 500 m b. 2,000 m c. 6,000 m d. 45 m

Name: _____

ID: A

30. Tell whether the graph represents an inverse variation.



a. no b. yes