

Algebra 1 Unit 4 Study Guide

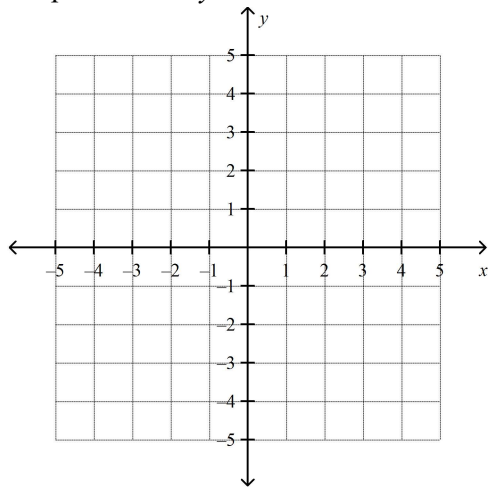
Short Answer

Beach Bike Rentals charges \$5.00 plus \$0.20 per mile to rent a bicycle.

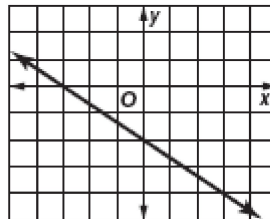
- Write an equation for the total cost C of renting a bicycle and riding for m miles.
- What is the cost of renting a bike and riding 18 miles?

Write a linear equation in slope-intercept form to model the situation.

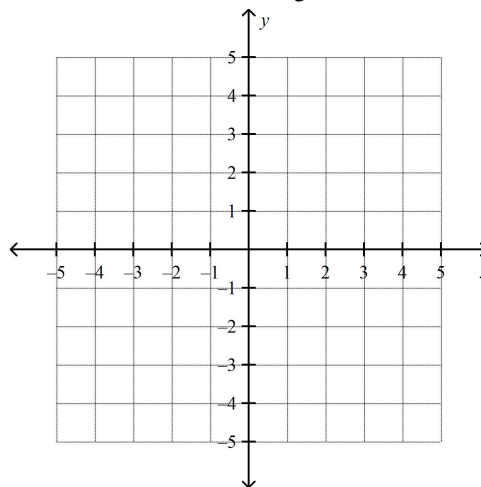
- A television repair shop charges \$35 plus \$20 per hour.
- Graph the line: $y = -2x + 3$.



- Write the slope-intercept form of an equation for the line graphed below.



- Graph the line: $y - 2 = \frac{1}{3}(x + 3)$



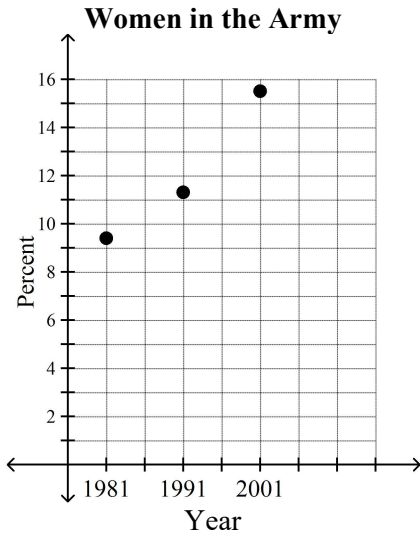
Write the point-slope form of an equation for a line that passes through the point with the given slope.

- $(1, -6), m = 1$

- $(5, 2), m = -\frac{3}{7}$

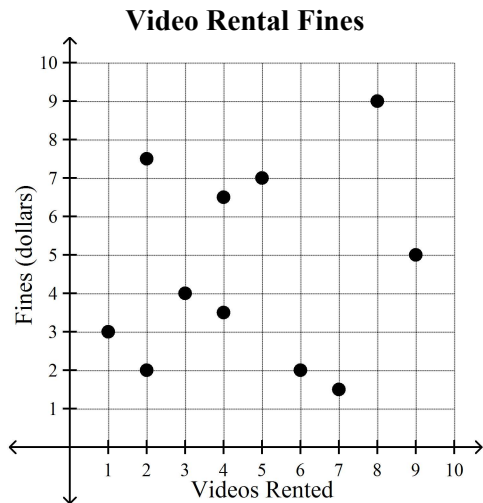
Determine whether the graph shows a positive correlation, a negative correlation, or no correlation.

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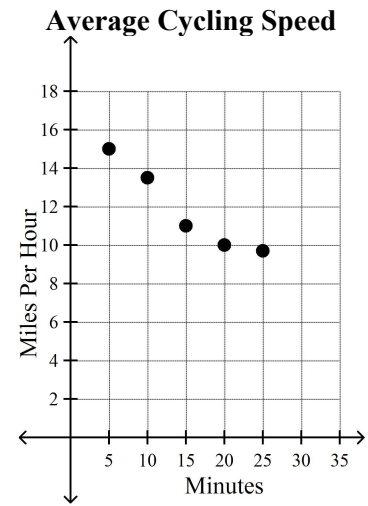


Source: Time Magazine, March 24, 2003

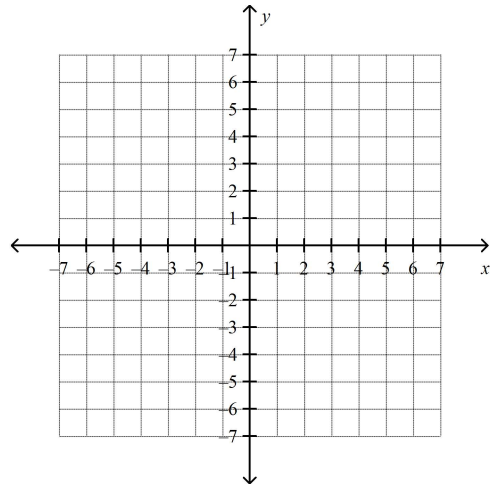
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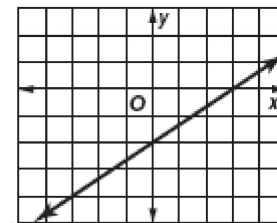
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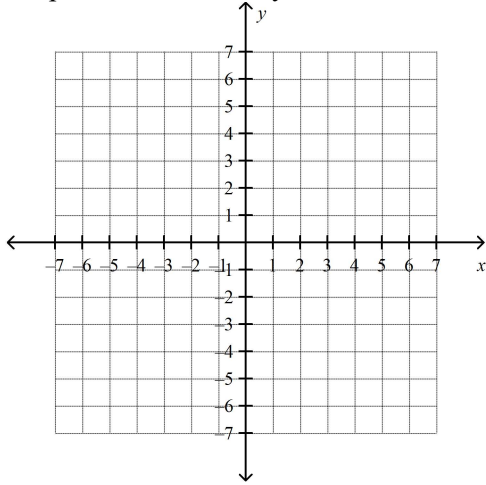
12 Graph the line: $y = \frac{2}{3}x - 4$



13 Write the slope-intercept form of an equation for the line graphed below



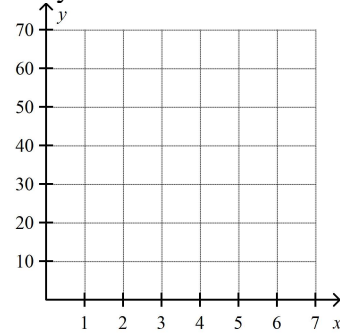
- 14 Graph the line:
- $2x + 4y = 12$



Mr. Collins is constructing a fence around his property. He already has 25 sections up and plans to add 8 sections each Saturday until he is finished.

- 15 Find the total number of fence sections standing after 15 Saturdays.

- 16 Graph the equation for the number of fence sections
- F
- standing after any number of Saturdays
- s
- .



- 17 Write an equation to find the total number of fence sections
- F
- standing after any number of Saturdays
- s
- .

Write an equation of the line with the given slope and y-intercept

- 18 slope:
- $-\frac{5}{7}$
- , y-intercept: 6

Multiple Choice

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

Write the equation in slope-intercept form.

- 19 $y + 2 = (x + 3)$
- A** $y = x - \frac{1}{2}$
- B** $y = -x + 1$
- C** $y = x + 1$
- D** $y = x - 1$

- 20 $y + 5 = (x - 2)$
- A** $y = x - 7$
- B** $y = x + 7$
- C** $y = x + 3$
- D** $y = -x - 7$

Write the slope-intercept form of an equation that passes through the given point and is perpendicular to the graph of the equation.

21 $(2, 5), y = x - 2$

- A** $y = x - 7$
B $y = 3x + 1$
C $y = x + 2$
D $y = -x + 7$

22 $(2, 2), x - 5y = -25$

- A** $y = \frac{1}{5}x + \frac{4}{3}$
B $y = 5x - 12$
C $y = -5x + 12$
D $y = \frac{8}{5}x + \frac{1}{5}$

Write the slope-intercept form of an equation of the line that passes through the given point and is parallel to the graph of the equation.

23 $(-4, 5), y = x + 1$

- A** $y = 9x + 1$
B $y = x - 9$
C $y = -x + \frac{15}{2}$
D $y = x + 9$

24 $(3, -4), 4x - 5y = -15$

- A** $y = \frac{32}{5}x - \frac{4}{5}$
B $y = \frac{4}{5}x + \frac{32}{5}$
C $y = \frac{4}{5}x - \frac{32}{5}$
D $y = -\frac{5}{4}x - \frac{16}{3}$

Write each equation in standard form.

25 $y - 7 = \frac{1}{4}(x - 3)$

- A** $x + 4y = 25$
B $x - 4y = -25$
C $x - 4y = -31$
D $y = \frac{1}{4}x + \frac{25}{4}$

26 $y - 6 = -3(x + 2)$

- A** $3x - y = 0$
B $y = -3x + 0$
C $3x + y = 0$
D $3x + y = -12$

Write an equation of the line that passes through the pair of points.

27 $(-5, -2), (1, 3)$

- A** $y = \frac{5}{6}x + \frac{13}{6}$
B $y = \frac{5}{6}x - \frac{6}{13}$
C $y = -\frac{5}{6}x + \frac{13}{6}$
D $y = \frac{5}{6}x - \frac{13}{6}$

28 $(-5, -7), (-6, -5)$

- A** $y = -2x + 17$
B $y = -2x - 17$
C $y = -2x + 7$
D $y = 2x - 17$

Name: _____

ID: A

Write an equation of the line that passes through each point with the given slope.

29 $(-7, -7), m = -2$

A $y = 2x - 21$

B $y = -2x - 6$

C $y = -2x - 21$

D $y = -2x + 21$

30 $(-5, -4), m = 4$

A $y = 4x + 24$

B $y = 4x + 16$

C $y = -4x + 16$

D $y = 4x - 16$