

## Chapter 3 Unit Test - Graphing Linear Equations in Two Variables

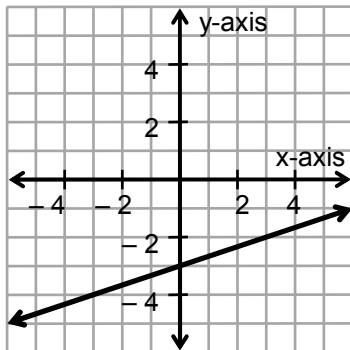
Name \_\_\_\_\_ Section \_\_\_\_\_

**Be sure to show all your work and circle your answer.**

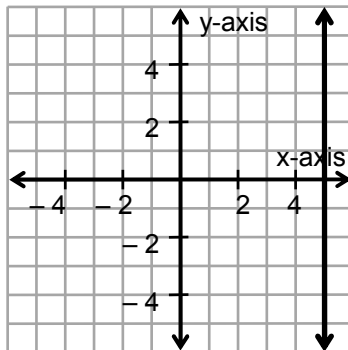
- 1) Graph  $4x + 5y = 20$
- 2) Graph  $y = -\frac{2}{3}x + 1$ .
- 3) Graph  $y - 7 = -5$ .
- 4) Graph  $x = 4y + 4$ .
- 5) Find the x- and y- intercepts of  $3x = 2y + 6$  and the graph.
- 6) Graph the line passing through  $(1, 4)$  with a slope of  $-2$ .
- 7) Find the slope of the line passing through  $(8, 2)$  &  $(8, 7)$ .
- 8) Find the slope of the line passing through  $(6, -3)$  &  $(-1, 2)$ .

**Given the graph below, write the equation in slope-intercept form (if possible).**

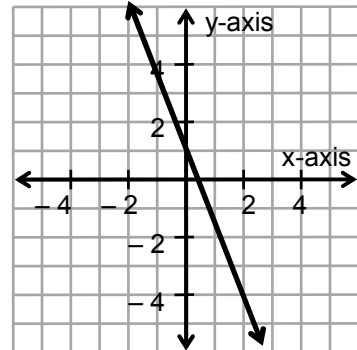
9)



10)

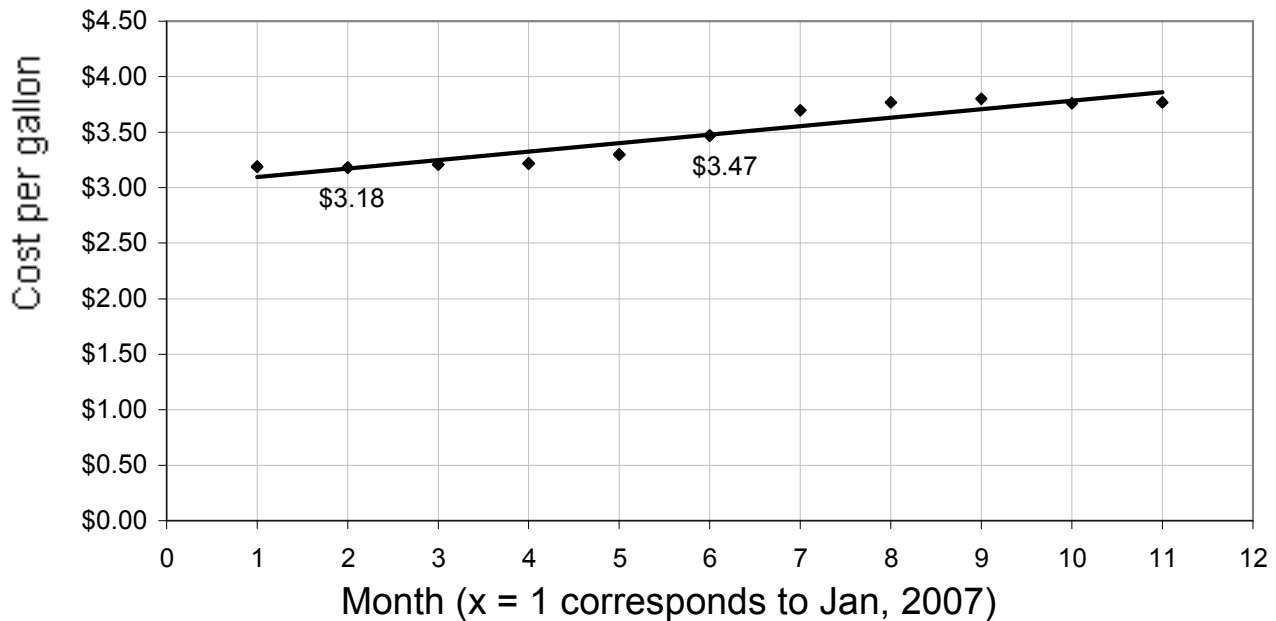


11)



- 12) Find the slope and y-intercept of  $6x - 9y = 18$ .
- 13) Write the equation of the line that has a slope of  $-\frac{4}{3}$  and passes through the point  $(2, -5)$ .
- 14) Write the equation of the line is parallel to  $3x - 2y = 7$  and passes through the point  $(2, -9)$ .
- 15) Write the equation of the line is perpendicular to  $2x - y = 6$  and passes through the point  $(3, 5)$ .
- 16) Write the equation of the line that passes through the point  $(3, -1)$  and  $(-1, 4)$ .

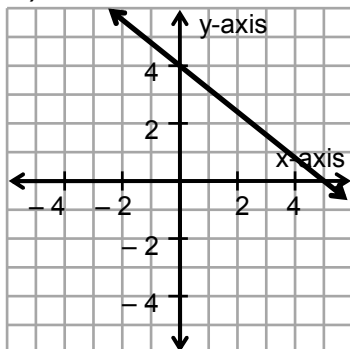
- 17) Write the equation of the line is parallel to  $x = 8$  and passes through the point  $(-4, 7)$ .
- 18) Write the equation of the line is perpendicular to  $x = 8$  and passes through the point  $(9, -2)$ .
- 19) The average price of a gallon of 2% milk from thirty selected cities in the US for the first eleven months of the 2007 is given in the table below (Source: [www.usda.gov](http://www.usda.gov)):



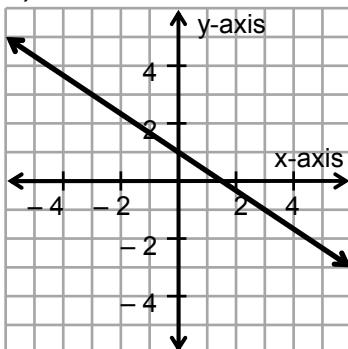
- a) Use the ordered pairs given to find the slope of the line.
- b) Interpret the meaning of the slope in this context.
- c) Find a linear equation for the line.
- d) Use the equation to find the cost of a gallon of 2% milk in December of 2007.
- 20) A bowling alley charges \$3.75 to rent a pair of bowling shoes plus \$1.75 per game.
- a) Write a linear equation to compute the total cost,  $y$ , of bowling  $x$  number of games.
- b) Use the equation from part a to find the total cost to if Mara bowled seven games.

## Answer Key:

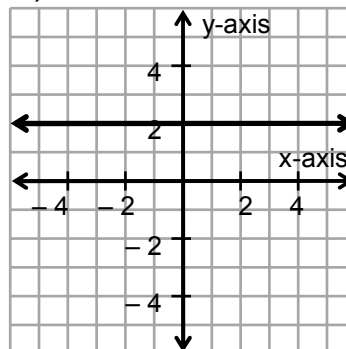
1)



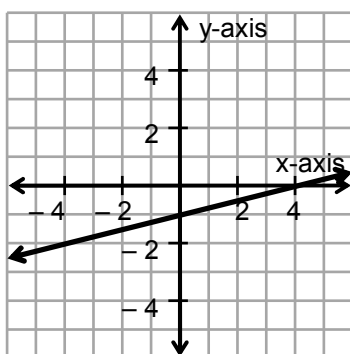
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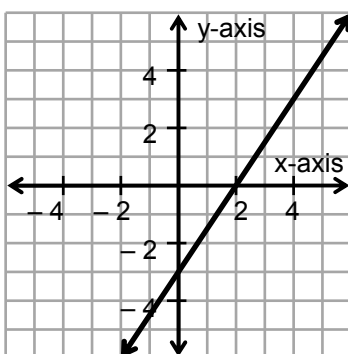
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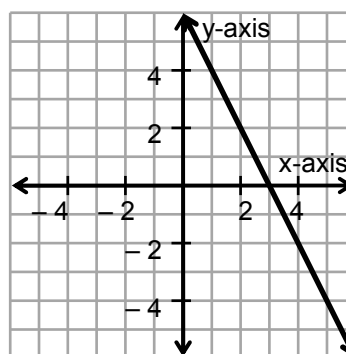
4)



5)



6)



7)  $m$  is undefined    8)  $m = -\frac{5}{7}$     9)  $y = \frac{1}{3}x - 3$     10)  $x = 5$

11)  $y = -\frac{5}{2}x + 1$     12)  $m = \frac{2}{3}$ ;  $y$ -int:  $(0, -2)$     13)  $y = -\frac{4}{3}x - \frac{7}{3}$

14)  $y = \frac{3}{2}x - 12$     15)  $y = -\frac{1}{2}x + 6.5$     16)  $y = -\frac{5}{4}x + \frac{11}{4}$

17)  $x = -4$     18)  $y = -2$     19a) 0.0725

19b) The price of a gallon was increasing at a rate of \$0.0725 per month

19c)  $y = 0.0725x + 3.035$     19d) The cost is  $\approx$  \$3.91 per gallon

20a)  $y = 1.75x + 3.75$     20b) It cost \$16.