

ALEKS® Graphing Quiz 3 #1

Beginning Algebra / Math 100 – Master No Book (Prof. Miller)

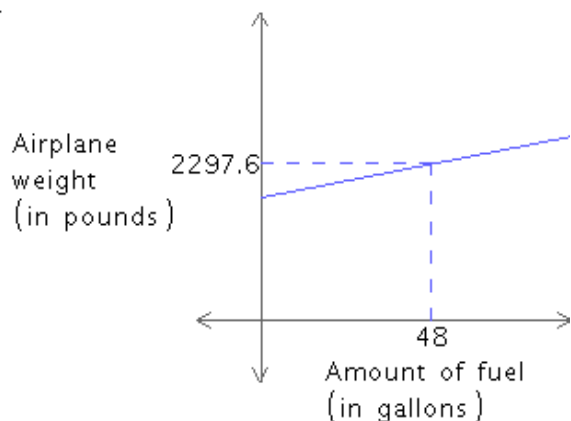
Student Name/ID:

Instructor Note:

Directions: Every problem is worth two points. One point is for trying the problem and showing your work and one point is for getting the correct answer. There are an additional five points for demonstrating the study strategy that is posted on the board and talked about at the beginning of class.

1. Suppose that the weight (in pounds) of an airplane is a linear function of the total amount of fuel (in gallons) in its tank. When graphed, the function gives a line with a slope of 6.2. See the figure below.

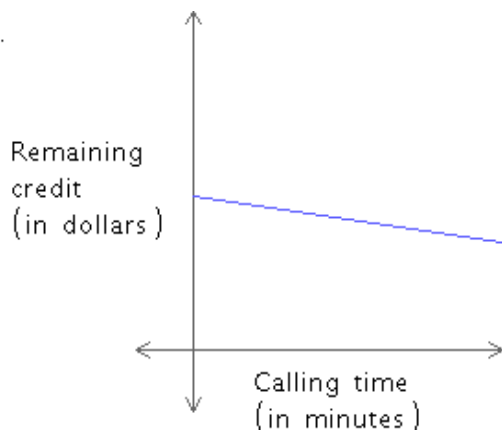
With 48 gallons of fuel in its tank, the airplane has a weight of 2297.6 pounds. What is the weight of the plane with 77 gallons of fuel in its tank?



2. Consider the line $y = -\frac{5}{2}x - 6$

- (a) Find the equation of the line that is perpendicular to this line and passes through the point $(-8, 6)$
- (b) Find the equation of the line that is parallel to this line and passes through the point $(-8, 6)$

3. The credit remaining on a phone card (in dollars) is a linear function of the total calling time made with the card (in minutes). The remaining credit after 28 minutes of calls is \$26.64 and the remaining credit after 61 minutes of calls is \$22.68. What is the remaining credit after 67 minutes of calls?



4. A line passes through the point $(-4, -1)$ and has a slope of $-\frac{5}{2}$.

Write an equation in slope-intercept form for this line.

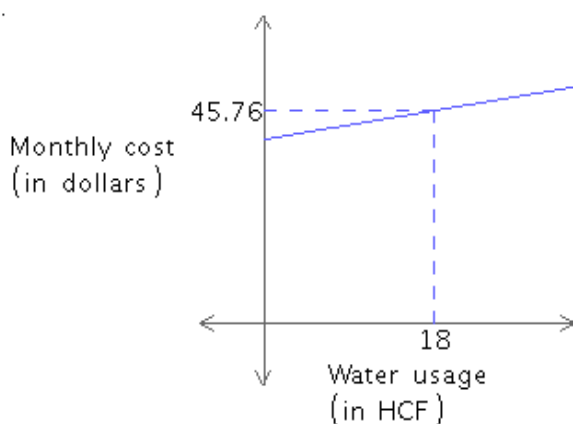
5. Consider the line $-9x - 6y = -4$.

What is the slope of a line perpendicular to this line?

What is the slope of a line parallel to this line?

6. Suppose that a household's monthly water bill (in dollars) is a linear function of the amount of water the household uses (in hundreds of cubic feet, HCF). When graphed, the function gives a line with a slope of 1.35. See the figure below.

If the monthly cost for 18 HCF is \$45.76, what is the monthly cost for 12 HCF?



7. Write equations for the horizontal and vertical lines passing through the point $(-8, 1)$

horizontal line:

vertical line:

8. A line passes through the point $(8, 3)$ and has a slope of $\frac{5}{4}$

Write an equation in slope-intercept form for this line.

9. Consider the line $y = -5x + 9$

(a) Find the equation of the line that is perpendicular to this line and passes through the point $(3, 6)$

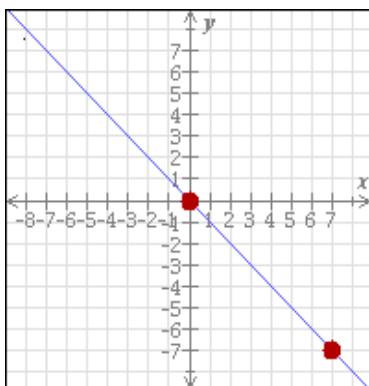
(b) Find the equation of the line that is parallel to this line and passes through the point $(3, 6)$

10. Write equations for the vertical and horizontal lines passing through the point $(-3, -1)$

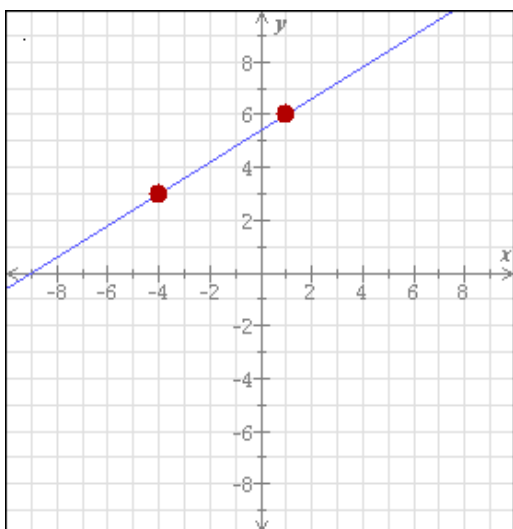
vertical line:

horizontal line:

11. Write an equation of the line below.



12. Find an equation for the line below.

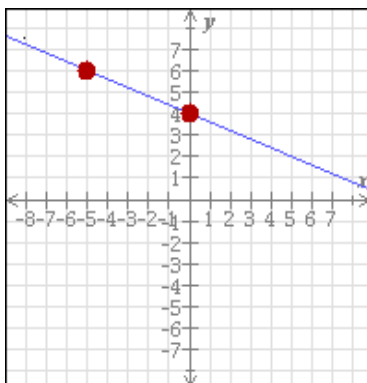


13. Consider the line $x + 2y = 3$

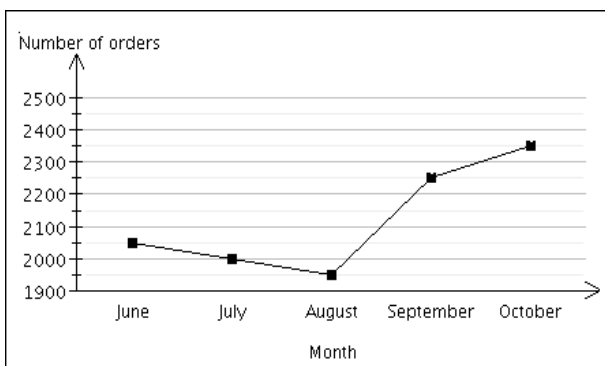
What is the slope of a line parallel to this line?

What is the slope of a line perpendicular to this line?

14. Write an equation of the line below.



15. The graph below shows the numbers of orders received by a company for five months.



(a) What was the least number of orders in a month?

(b) When did the number of orders have the greatest increase?

Graphing Quiz 3 #1 Answers for class Beginning Algebra / Math 100 – Master No Book

1. 2477.4 pounds

2. Equation of perpendicular line: $y = \frac{2}{5}x + \frac{46}{5}$

Equation of parallel line: $y = -\frac{5}{2}x - 14$

3. \$21.96

4. $y = -\frac{5}{2}x - 11$

5. Slope of a perpendicular line: $\frac{2}{3}$

Slope of a parallel line: $-\frac{3}{2}$

6. \$37.66

7. horizontal line: $y = 1$

vertical line: $x = -8$

8. $y = \frac{5}{4}x - 7$

9. Equation of perpendicular line: $y = \frac{1}{5}x + \frac{27}{5}$

Equation of parallel line: $y = -5x + 21$

10. vertical line: $x = -3$

horizontal line: $y = -1$

11. $y = -x$

12. $y = \frac{3}{5}x + \frac{27}{5}$

13. Slope of a parallel line: $-\frac{1}{2}$

Slope of a perpendicular line: 2

14. $y = -\frac{2}{5}x + 4$

15. (a) What was the least number of orders in a month?

1950 orders

(b) When did the number of orders have the greatest increase?

August to September