



**Unit 7:  
Review**

1. What is the slope of a line that is parallel to the line given by  $-8x - 7y = 14$ ?

2. What is the slope of a line that is perpendicular to the y-axis?

3. What is the equation of the line that has slope 4 and passes through (2, -6)?

4. What is the equation of the line having a slope of  $-2/3$  and passing through the y-axis at -5?

5. What is the equation of the line in which the ratio of the rise to the run is  $4/5$  and whose y-intercept is 2?

6. What is the equation of the line that passes through (-2, 2) and is parallel to the line given by  $x = -7$ ?

7. What is the equation of the line passing through (4, 10) and (-4, 8)?

8. What is the equation of the line passing through the origin and perpendicular to the line joining the two points in problem 7?

9. Which of the following line(s) passes through the y-axis at  $y = 5$ ?

- a.  $y + x + 5 = 0$
- b.  $y = 5x + 1 = 0$
- c.  $y - x - 5 = 0$
- d.  $5y + x + 1 = 0$
- e.  $2y + 8x - 10 = 0$

10. What is the equation of the line passing through (1, 2) and perpendicular to the y-axis?

11. Which of the following relations is not a function?

- a.  $y = 3$
- b.  $x = -9$
- c.  $y = x$
- d.  $y = -x$
- e.  $y/3 = x/2 + 7$

12. Examine the two lines given by  $4y + 2x - 6 = 0$  and  $-x - 2y + 11 = 0$  and determine if they are parallel, perpendicular or neither.

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13. Examine the two lines given by  $4y + 2x - 6 = 0$  and  $2x - y + 11 = 0$  and determine if they are parallel, perpendicular or neither.

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14. Write the equation of a line that passes through  $(4, 8)$  and is perpendicular to the line given by  $12x - y = 19$ .

15. The Old Tyme Ice Cream Parlor sells a bowl of their homemade ice cream for \$3.50. They have many different toppings, each priced at 25 cents. It is possible to get no toppings or as many as desired. Consider the function that gives the total price of a bowl of ice cream with toppings in terms of the number of toppings.

Choose an independent variable. What is its meaning?

Choose a dependent variable. What is its meaning?

Make a chart for the two variables and compute the cost for 0, 2, 4, and 6 toppings.

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Write out the linear function indicated by this table:

What is the slope and what does it represent?

What is the y-intercept and what does it represent?

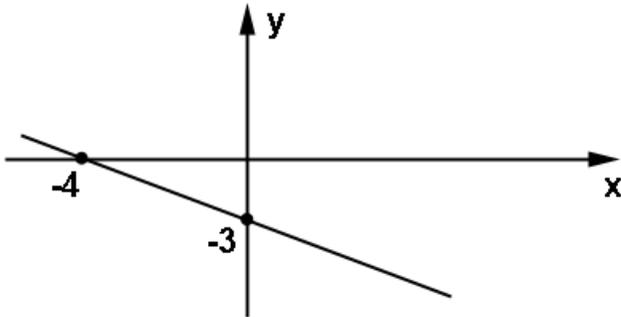
What would be the price for a bowl of ice cream with 5 toppings?

What would be the new function be if the price of a plain bowl is \$3.75 and only 20 cents per topping?

16. Using a graphing calculator, enter the function of problem 15 and then produce a table on the calculator corresponding to the one described in problem 15. Show the table settings as well as the table the calculator produces.

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17. Find the equation of this line.



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18. Which quadrants are touched by the line in problem 17?