Name:_____ Date:_____

Practice 6.2

Write a verbal description of each function. Then write an algebraic equation for the function.

1. Gordon is traveling at a constant speed of 80 kilometers per hour. The distance he travels, d kilometers, is a function of the amount of time he takes to travel, t hours.

2. Mr. Henderson pays a monthly charge of $40 for a family cell phone plan. Each additional family member pays $10 every month. The total amount Mr. Henderson and his family members pay each month, y dollars, is a function of the number of the additional family members who use the plan, x.

3. *Math Journal* In questions 1 and 2, tell whether all values for the input and output are meaningful for the functions. Explain.

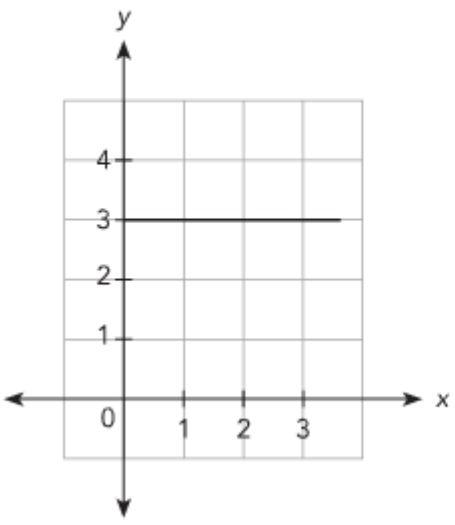
Write an algebraic equation for each function. Then construct a table of x- and y-values for the function.

4. The students from the Robotics Club are making model windmills for a workshop. Each windmill has three blades. The total number of blades needed, y, is a function of the number of windmills they make, x.

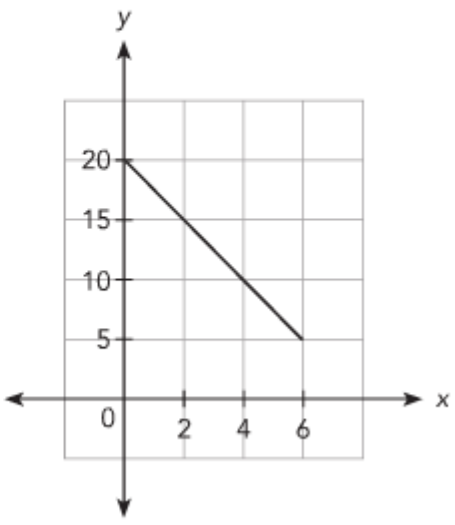
5. A newly made glass vase has a temperature of 580°C. Its temperature then decreases at an average rate of 56°C per minute. The temperature of the glass vase, y°C, is a function of the number of minutes its temperature has been decreasing, x.

Each of the following graphs represents a function. Write an algebraic equation to represent the function.

6.



7.



Use the table of values to plot a graph to represent the function.

8 The table shows the number of chairs in a classroom, y, as a function of the number of students in the classroom. Use 1 unit on the horizontal axis to represent 1 student for the x interval, and 1 unit on the vertical axis to represent 4 chairs for the y interval.

Number of Students (x)	0	2	3	10
Number of Chairs in a Classroom (y)	4	8	10	24

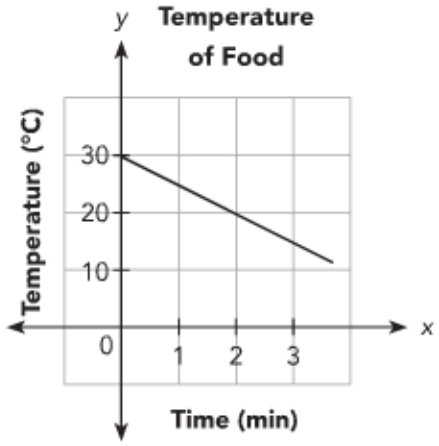
Use the table of values to plot a graph to represent the function. Then write an algebraic equation for the function.

9 A motorcyclist rode at a constant speed from City A to City B, which are 240 miles apart. The table shows his distance from City B, y miles, as a function of the number of hours he rode, x hours. Use 1 unit on the horizontal axis to represent 1 hour for the x interval, and 1 unit on the vertical axis to represent 40 miles for the y interval.

Number of Hours (x)	0	1	2	3	4	5	6
Distance from City B (y miles)	240	200	160	120	80	40	0

Solve. Show your work.

10 The graph shows the temperature of a package of food, y°C, as a function of the time the food is in the freezer, x minutes.



a) Write an equation in slope-intercept form to represent the function.

b) What information do the values for slope and y-intercept give you about the function?

11 Hillary has $60 on her bus card. Every time she rides a bus, $1.50 is deducted from the value on her card. The amount of money she has on her card, y dollars, is a function of the number of times she rides a bus, x.

a) Write a verbal description of the function. Then write an algebraic equation for the function.

b) Construct a table of x- and y-values for the function in **a)**. Use values of x from 0 to 6.

c) Use the table of values in **b)** to plot a graph to represent the function. Use 1 unit on the horizontal axis to represent 1 bus ride for the x interval from 0 to 6, and 2 units on the vertical axis to represent $3 for the y interval from 51 to 60.

d) How many bus rides has Hillary taken if she has $51 left on her card?