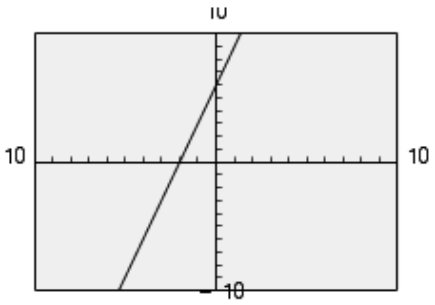
Name_____ Class_____ Date_____

1 Use a graphing calculator to graph the equation.

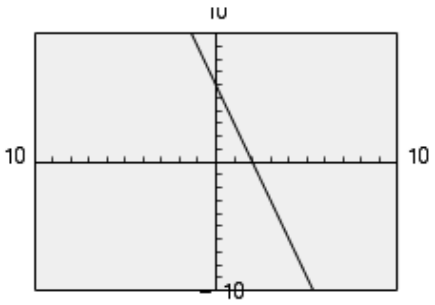
$6 - y + 3x = 0$

Choose the letter that corresponds to the correct graph.

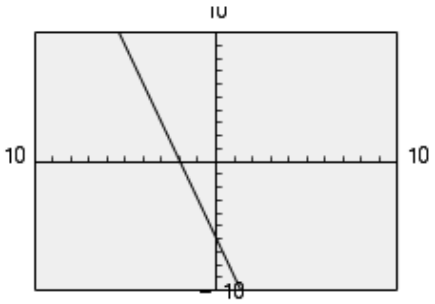
A



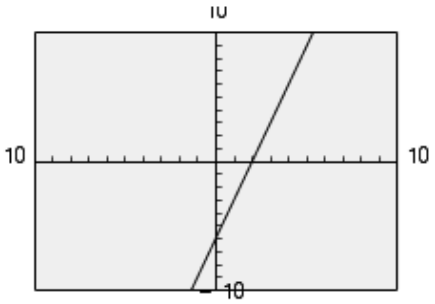
B



C



D



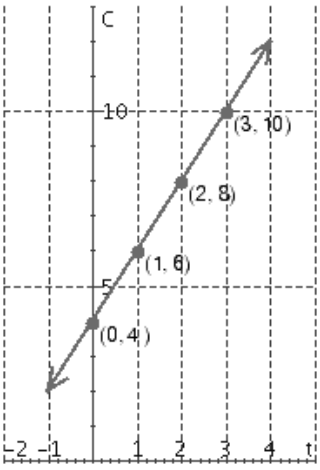
2 Annelise is on vacation at a seaside resort. She can rent a bicycle from her hotel for $2 an hour, plus a $4 insurance fee. (A fraction of an hour is charged as the corresponding fraction of $2.) The table of values, showing the cost, *C*, of renting a bike for various lengths of time, *t*, is given below.

Length of rental(hours)	Cost of rental (dollars)
0	4
1	6
2	8
3	10

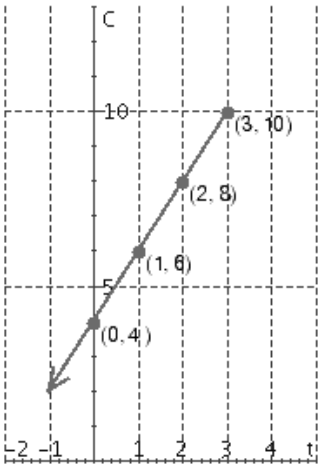
	(*t*, *C*)
Cost = 4 + 2(0)	(0, 4)
Cost = 4 + 2(1)	(1, 6)
Cost = 4 + 2(2)	(2, 8)
Cost = 4 + 2(3)	(3, 10)

Choose the graph from the following where mark the points and a curve through the data points are drawn correctly.

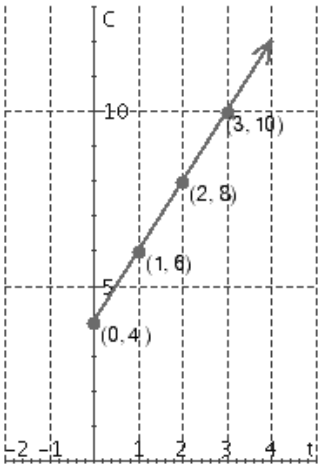
A



B



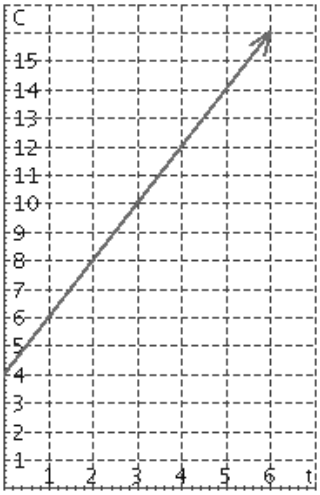
C



3 Annelise is on vacation at a seaside resort. She can rent a bicycle from her hotel for $2 an hour, plus a $4 insurance fee. (A fraction of an hour is charged as the corresponding fraction of $2.) The equation for the cost of the rental, *C*, in terms of the number of hours, *t*, is

$$C = 4 + 2t$$

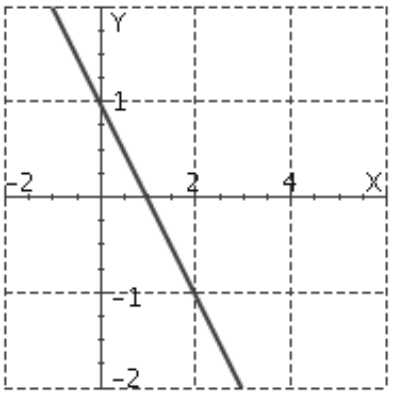
How much will it cost Annelise to rent a bicycle for 3 hours? Check your answer using the graph.



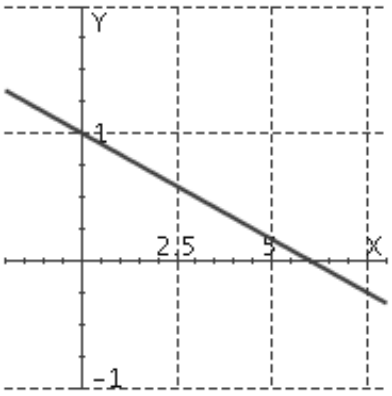
4 Graph the given equation by the intercept method.

$6x + 6y = 6$

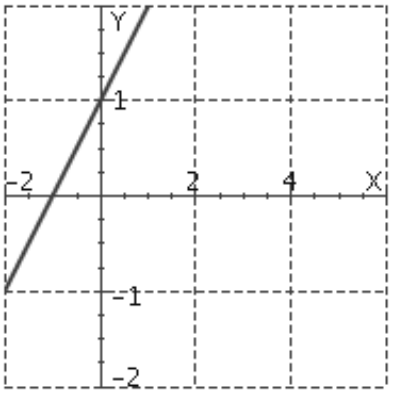
a.



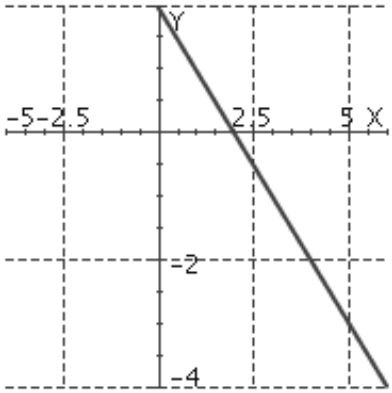
c.



b.

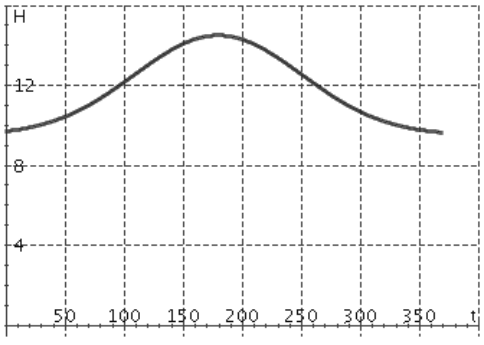


d.



5 Determine whether the distance, *d*, traveled by a car in 6 hours is a function of its speed, *r*.

6 Figure shows the number of hours, *H*, that the sun is above the horizon in Peoria, Illinois, on day *t*, where January 1 corresponds to $t = 0$.



Which variable is independent, and which is dependent?

Approximately how many hours of sunlight are there in Peoria on day 40?
Round your answer to the nearest integer.

7 TrailGear decides to market a line of backpacks. The cost, *C*, of manufacturing backpacks is a function of the number, *x*, of backpacks produced, given by the equation

$C(x) = 4000 + 25x$

where $C(x)$ is measured in dollars. Find the cost of producing 800 backpacks.

8 Does the table define the second variable as a function of the first variable?

If it is a function, find the equation.If it isn't a function write *no*.

r	**-4**	**-2**	**0**	**2**	**4**
v	**77**	**17**	**-3**	**17**	**77**

9 In a profit-sharing plan an employee receives a salary of

$S(x) = 16900 + 0.05x$

where x represents the company's profit for the year. Complete the table of values.

x	*S*
63000	
81000	
482000	

10 Evaluate the function and simplify.

$g(x) = 12$

$g(a + 4)$

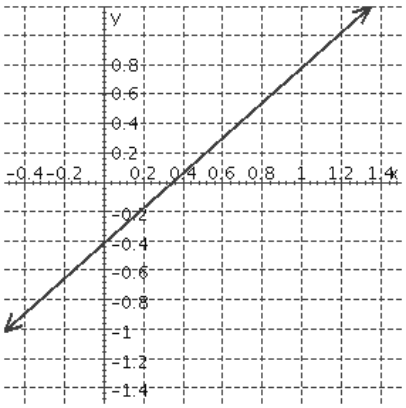
11 The figure shows the graph of

$$y = 1.2x - 0.42$$

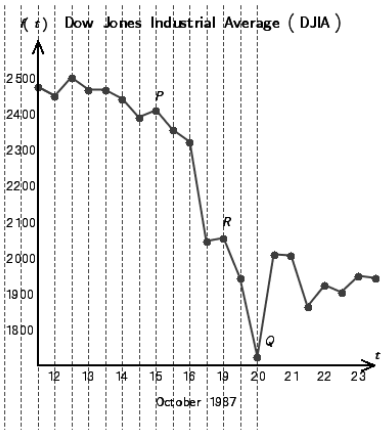
Use the graph to solve the inequality

$$1.2x - 0.42 > 0.3$$

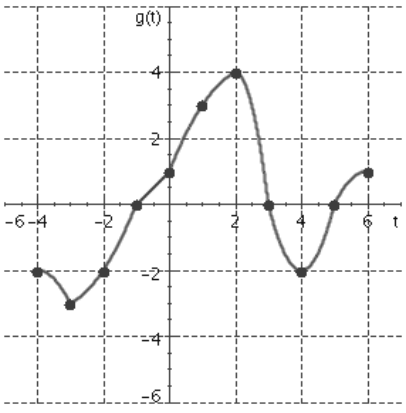
and then solve algebraically.



12 The coordinates of point *R* in the figure are (19, 2052). What do the coordinates tell you about the function *f* ? What was the DJIA at noon on October 19?



13 Consider the graph of the function *g* shown in the figure.
Find $g(-1)$, $g(0)$, and $g(6)$.

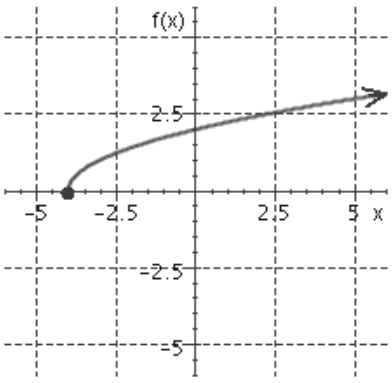


14 Graph the function

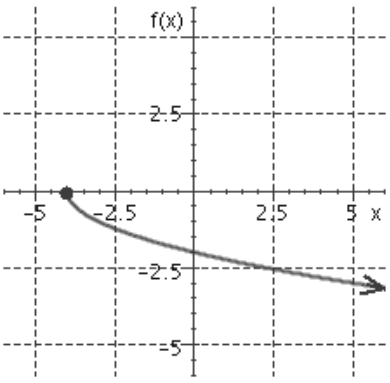
$f(x) = \sqrt{x + 4}$

Select the letter that corresponds to the correct graph.

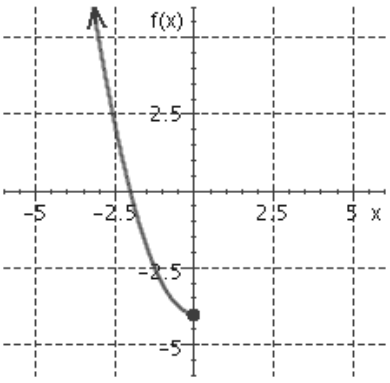
A



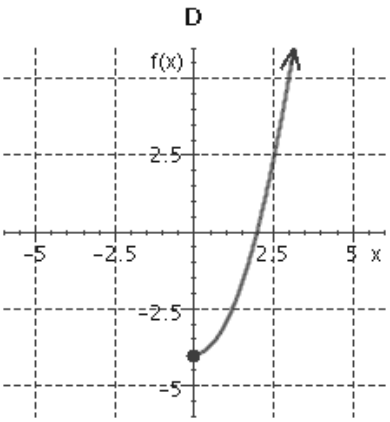
B



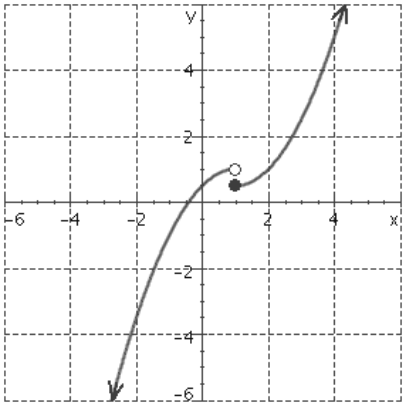
C



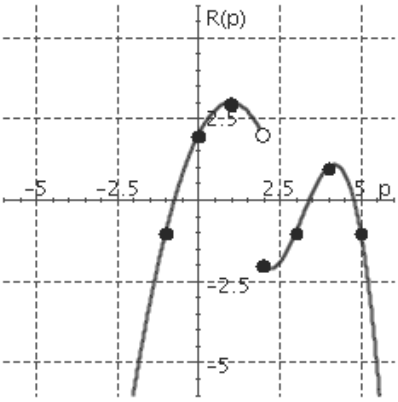
D



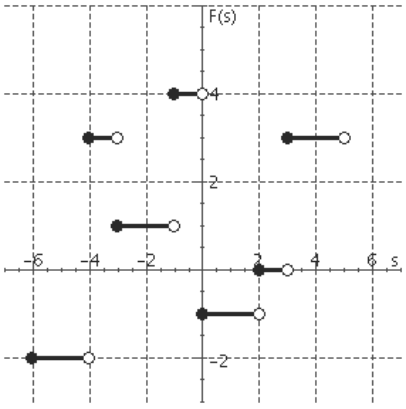
15 Use the vertical line test to determine whether the graph in the figure represents a function.



16 Use the graph to find $R(2)$.



17 Use the graph to find $F(2)$.



a. $F(2) = 3$ b. $F(2) = -1$ c. $F(2) = -2$ d. $F(2) = 0$ e. $F(2) = 1$

18 Graph the following equation on your calculator with the ZInteger setting. (Press ZOOM 6, and then ZOOM 8 ENTER.) Use the graph to answer the question. Use the equation to verify your answers.

$y = 10 - 3x$

For what value of x is $y > -5$?

19 Graph the following equation with the ZInteger setting.

$y = 0.2(x - 2.5)$

Use the graph to solve the equation $0.2(x - 2.5) = 4.5$.
Check your solutions algebraically.

a. $x = 24$ b. $x = -15$ c. $x = 16$ d. $x = 4.5$ e. $x = 25$

ANSWER KEY

Sample questions (Ch 1.1-1.4)

1. A **2.** C **3.** $c=10$ **4.** a **5.** yes

x	S
63000	20050
81000	20950
482000	41000

6. $t, H, 10$ **7.** $C(800)=24000$ **8.** $v=5r^2-3$ **9.** (see table above) **10.** 12

11. $x>0.6$ **12.** 2052 **13.** $0, 1, 1$ **14.** A **15.** yes

16. -2 **17.** d **18.** $x<5$ **19.** e