

4-1

Think About a Plan

Using Graphs to Relate Two Quantities

Skiing Sketch a graph of each situation. Are the graphs the same? Explain.

- your speed as you travel from the bottom of a ski slope to the top
- your speed as you travel from the top of a ski slope to the bottom

Understanding the Problem

1. What is likely to be true about your speed as you go from the bottom of the ski slope to the top?

2. What is likely to be true about your speed as you go from the top of the ski slope to the bottom?

Planning the Solution

3. What will the graph tend to look like relating to your speed as you go up the ski slope?

4. What will the graph tend to look like relating to your speed as you go down the ski slope?

Getting an Answer

5. Sketch the graph as you travel to the top of the slope.

6. Sketch the graph as you travel to the bottom of the slope.

7. Are the graphs the same? Explain.

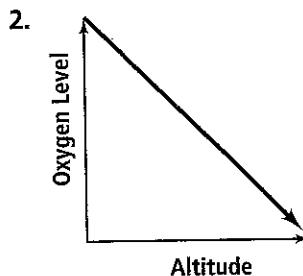
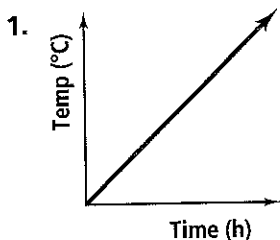
4-1

Practice

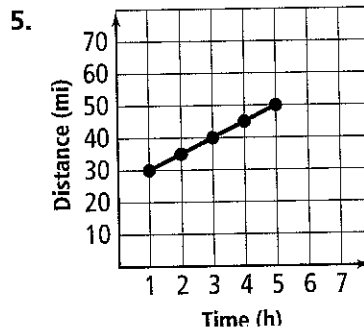
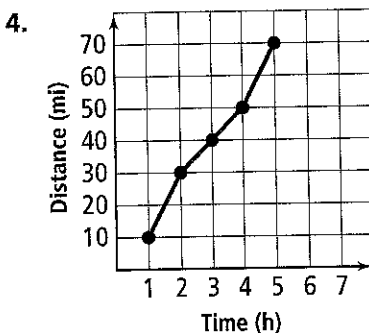
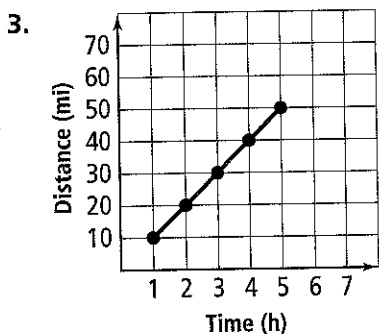
Form K

Using Graphs to Relate Two Quantities

What are the variables in each graph? Describe how the variables are related at various points on the graph.



Match each graph with its related table. Explain your answers.



A.

Time (h)	Distance (mi)
1	10
2	20
3	30
4	40
5	50

B.

Time (h)	Distance (mi)
1	30
2	35
3	40
4	45
5	50

C.

Time (h)	Distance (mi)
1	10
2	30
3	40
4	50
5	70

4-1

Practice (continued)

Form K

Using Graphs to Relate Two Quantities

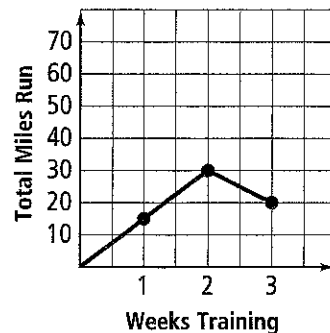
Sketch a graph to represent the situation. Label each section.

6. During a trip, your speed increases during the first hour and decreases over the next 2 hours.

7. The average temperature steadily decreases over the course of the football season.

8. The average test score of the class increased throughout the semester until it decreased slightly on the last test.

9. **Error Analysis** During the first 2 weeks of training, Shelly ran 15 miles per week. Then, she increased to 20 miles per week. Describe and correct the error in sketching a graph to represent the relationship between the weeks and the total number of miles she has run.



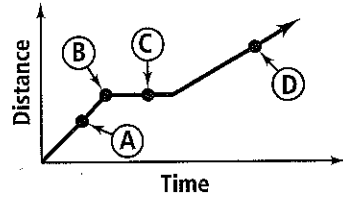
4-1 Standardized Test Prep

Using Graphs to Relate Two Quantities

Multiple Choice

For Exercises 1–3, choose the correct letter.

1. The graph shows your distance from the practice field as you go home after practice. You received a ride from a friend back to his house where you ate supper. You then walked home from there. Which point represents a time when you are walking home?



- A. A B. B C. C D. D

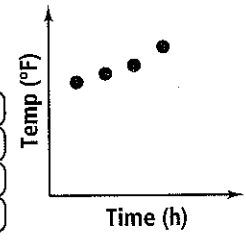
2. Which table is related to the graph at the right?

F.

Time (h)	Temp. (°F)
1	68
2	73
3	78
4	85

H.

Time (h)	Temp. (°F)
68	1
73	2
78	3
85	4



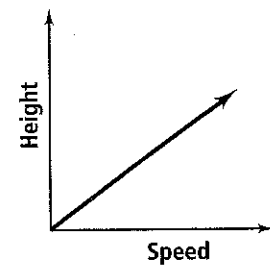
G.

Temp. (°F)	Time (h)
1	85
2	78
3	73
4	68

I.

Temp. (°F)	Time (h)
85	1
78	2
73	3
68	4

3. How are the variables related on the graph?
- A. as speed decreases, height stay constant
 - B. as speed decreases, height increases
 - C. as speed increases, height decreases
 - D. as speed increases, height increases



Short Response

4. For the race you swim 1 mile, run 10 miles, and bike 25 miles. Sketch a graph to represent the relationship. Label the axes with the related variables. What are the important points on the graph?

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4-2

Think About a Plan

Patterns and Linear Functions

Electric Car An automaker produces a car that can travel 40 mi on its charged battery before it begins to use gas. Then the car travels 50 mi for each gallon of gas used. Represent the relationship between the amount of gas used and the distance traveled using a table, an equation, and a graph. Is total distance traveled a function of the gas used? What are the independent and dependent variables? Explain.

Understanding the Problem

1. Describe the miles that the car can travel on the different types of fuel.

Planning the Solution

2. Give a verbal description of the relationship between the miles the car travels and gallons of gas it uses.

Getting an Answer

3. Represent this relationship with an equation.

4. Represent this relationship with a table.
5. Represent this relationship with a graph.

6. Is total distance traveled a function of the gas used? What are the independent and dependent variables? Explain.

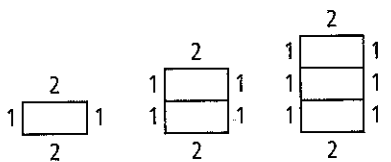
4-2

Practice

Form K

Patterns and Linear Functions

1. For the diagram below, find the relationship between the number of shapes and the perimeter of the figure they form. Represent this relationship using a table, words, an equation, and a graph.



1 rectangle 2 rectangles 3 rectangles

For each table, determine whether the relationship is a function. Then represent the relationship using words, an equation, and a graph.

2.

x	y
0	2
1	3
2	4
3	5

3.

x	y
0	5
1	10
2	15
3	20

4-2

Practice (continued)

Form K

Patterns and Linear Functions

For each table, identify the dependent and independent variables. Then describe the relationship using words, an equation, and a graph.

4.

x	y
0	-2
1	-1
2	0
3	1

5.

n	m
0	1
1	-2
2	-5
3	-8

6. **Reasoning** Graph the set of ordered pairs $(0, 6)$, $(1, 4)$, $(2, 2)$, $(3, 0)$. Determine whether the relationship is a linear function. Explain how you know.

4-2 Standardized Test Prep

Patterns and Linear Functions

Multiple Choice

For Exercises 1–4, choose the correct letter.

1. Which equation represents the relationship shown in the table at the right?

A. $y = -x - 3$
 B. $y = x - 3$

C. $y = 2x - 3$
 D. $y = -2x + 3$

x	y
0	-3
1	-1
2	1
3	3

2. In a relationship between variables, what is the variable called that changes in response to another variable?

F. function
 G. input function

H. independent variable
 I. dependent variable

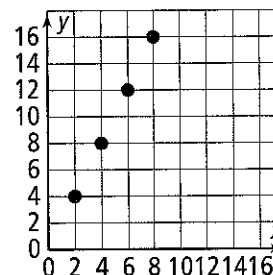
3. A lawn care company charges a \$10 trip fee plus \$0.15 per square foot of x square feet of lawn for fertilization. Which equation represents the relationship?

A. $x = 0.10y + 15$ B. $y = 0.15x + 10$ C. $y = 10x + 0.15$ D. $x = 10y + 0.15$

4. Which equation represents the relationship shown in the graph?

F. $y = -2x$
 G. $y = 2x$

H. $y = -\frac{1}{2}x$
 I. $y = \frac{1}{2}x$



Short Response

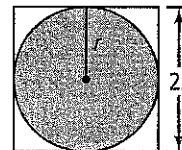
5. The table below shows the relationship between the number of teachers and the number of students going on a field trip. How can the relationship be described using words, an equation, and a graph?

Field Trip					
Teachers	2	3	4	5	6
Students	34	51	68	85	102

4-3 Think About a Plan

Patterns and Nonlinear Functions

Fountain A designer wants to make a circular fountain inside a square of grass as shown at the right. What is a rule for the area A of the grass as a function of r ?



Understanding the Problem

1. What shapes are involved in the areas of grass and the fountain?

2. What are the formulas for the areas of these shapes?

Planning the Solution

3. Using r as shown in the drawing, what is a rule for the area of the square?

4. Using r as shown in the drawing, what is a rule for the area of the circle?

5. How will you find the area of the remaining grass after the fountain is placed in the grass?

Getting an Answer

6. What is a rule for the area A of the grass as a function of r after the fountain is placed in the grass?

4-3

Practice

Form K

Patterns and Nonlinear Functions

1. A worker's wages W , in dollars, is a function of the number h of hours worked. Graph the function shown by the table. Tell whether the function is *linear* or *nonlinear*.

Hours, h	2	4	6	8	10
Wages (\$), W	20	40	60	80	100

Graph the function shown by each table. Tell whether the function is *linear* or *nonlinear*.

2.

x	y
0	-1
1	0
2	3
3	8

3.

x	y
0	-4
1	2
2	8
3	14

4-3

Practice (continued)

Form K

Patterns and Nonlinear Functions

Each set of ordered pairs represents a function. Write a rule that represents the function.

4. $(0, 0), (1, 1), (2, 4), (3, 9), (4, 16)$

5. $(0, 1), (1, 5), (2, 9), (3, 13), (4, 17)$

6. $(0, -1), (1, 0), (2, 7), (3, 26), (4, 63)$

7. $(0, 2), (1, 1), (2, 0), (3, -1), (4, -2)$

8. **Writing** How can you determine if a function is linear or nonlinear from the graph of the function?

9. **Error Analysis** A student says that the function shown by the table below can be represented by the rule $y = x^2 - 1$. Describe and correct the error.

x	0	1	2	3	4
y	-1	1	3	5	7

4-3 Standardized Test Prep

Patterns and Nonlinear Functions

Multiple Choice

For Exercises 1-5, choose the correct letter.

- Which ordered pair represents a linear function?
 - A. $(-2, -15), (-1, -9), (0, -3), (1, 3),$ and $(2, 9)$
 - B. $(-2, 4), (-1, 1), (0, 0), (1, 1),$ and $(2, 4)$
 - C. $(-2, -1), (-1, -4), (0, -5), (1, -4)$ and $(2, -1)$
 - D. $(-2, -8), (-1, -1), (0, 0), (1, 1),$ and $(2, 8)$
- The following ordered pairs represent a function: $(-2, 10), (-1, 7), (0, 6), (1, 7),$ and $(2, 10)$. Which equation could represent the function?
 - F. $y = -4x + 2$
 - G. $y = x^2 - 6$
 - H. $y = 5x$
 - I. $y = x^2 + 6$

- Which rule could represent the function shown by the table at the right?

- A. $y = -x^3$
- B. $y = x^2 + 1$
- C. $y = -x^2 + 1$
- D. $y = -x - 1$

x	y
-2	-3
-1	0
0	1
1	0
2	-3

- The ordered pairs $(-1, 1), (0, 2), (1, 1), (2, -2),$ and $(3, -7)$ represent a function. Which rule could represent the function?
 - F. $y = -x^2 - 2$
 - G. $y = -x^2 + 2$
 - H. $y = x^2 - 2$
 - I. $y = x^2 + 2$
- Which ordered pair represents a nonlinear function?
 - A. $(0, 0), (1, 1), (2, 2), (3, 3),$ and $(4, 4)$
 - B. $(0, 0), (1, -1), (2, -2),$ and $(4, -4)$
 - C. $(0, -1), (1, 0), (2, 1), (3, 2),$ and $(4, 3)$
 - D. $(0, 0), (1, 1), (2, 8), (3, 27),$ and $(4, 64)$

Short Response

- Graph the function shown in the table below. Is the function *linear* or *nonlinear*?

x	1	2	3	4
y	-9	-8	-5	0

4-4 Think About a Plan

Graphing a Function Rule

Falling Objects The height h , in feet, of an acorn that falls from a branch 100 ft above the ground depends on the time t , in seconds, since it has fallen. This is represented by the rule $h = 100 - 16t^2$. About how much time does it take for the acorn to hit the ground? Use a graph and estimate your answer between two consecutive whole-number values of t .

Understanding the Problem

1. What do the variables represent in the situation?

2. What does h equal when the acorn hits the ground?

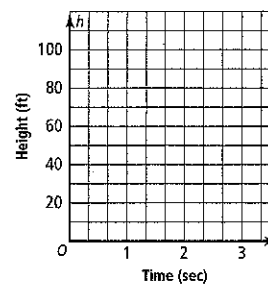
Planning the Solution

3. How can you determine how much time has elapsed when the acorn hits the ground algebraically?

4. How will you use a graph to estimate the time?

Getting an Answer

5. Graph the function on the grid shown at the right.



6. What two whole-number values is the answer between? What is your estimate? What does this answer mean?

7. Check your answer algebraically. Show your work.

4-4**Practice**

Form K

Graphing a Function Rule

Make a table of values for each function. Then graph each function rule.

1. $y = -x + 3$

2. $y = \frac{1}{4}x$

3. $y = 5x - 2$

Graph each function rule. Explain your choice of intervals on the axes of the graph. Tell whether the graph is *continuous* or *discrete*.

- The cost d , in dollars, for a parking pass depends on the number of whole weeks w you purchase. This situation is represented by the function rule $d = 25w$.
- The price p , in dollars, for apples depends on the weight w , in pounds, of the apples. This situation is represented by the function rule $p = 1.99w$.

4-4**Practice** (continued)

Form K

Graphing a Function Rule

Graph each function rule.

6. $y = |x| + 3$

7. $y = -3x^2$

8. $y = |x - 2| + 3$

9. $y = -x^2 - 2$

10. **Open-Ended** Sketch a graph of a quadratic function. Write the function rule that you graphed.

11. **Writing** Describe the general shape of the function $y = |x|$.

4-4 Standardized Test Prep

Graphing a Function Rule

Multiple Choice

For Exercises 1-4, choose the correct letter.

1. Which table of values can be used to graph the function $y = -4x + 3$?

A.

x	y
-1	-1
0	3
1	7
2	11

C.

x	y
0	3
1	-1
2	-5
3	-9

B.

x	y
-3	-9
-1	-1
1	7
3	15

D.

x	y
0	3
1	7
2	11
3	15

2. Which term best describes a function whose graph is composed of isolated points?
 F. continuous G. linear H. discrete I. nonlinear
3. Which relationship is continuous?
 A. the number of cows a farmer has owned over the years
 B. the number of cookies Stan baked for the party
 C. the number of people attending the assembly
 D. the distance a runner ran during training
4. The total cost c a painter charges to paint a house depends on the number h of hours it takes to paint the house. This situation can be represented by the function rule $c = 15h + 245$. What is the total cost if the painter works for 30.25 hours?
 F. \$245 G. \$453.75 H. \$572.75 I. \$698.75

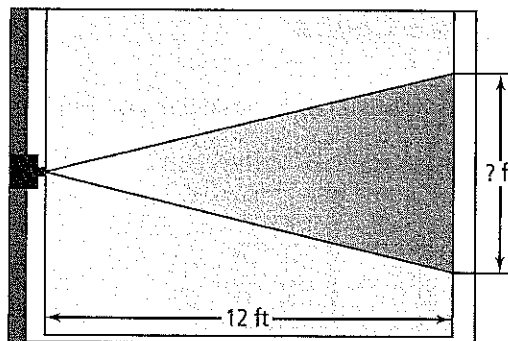
Short Response

5. The profit y on the number x of items a store sells is represented by the rule $y = 2x - 1$. What does a table of values for the function rule and the graph of the function look like?

4-5 Think About a Plan

Writing a Function Rule

Projectors You consult your new projector's instruction manual before mounting it to the ceiling. The manual says *multiply the desired image width by 1.8 to find the correct distance of the projector lens from the wall.*



- Write a rule to describe the distance of the lens from the wall as a function of desired image width.
- The diagram shows the room in which the projector will be installed. Will you be able to project an image 7 ft wide? Explain.
- What is the maximum image width you can project in the room?

1. What represents the desired image width in the drawing?

2. What variables will you use in writing the rule and what do they represent?

3. Write a rule to describe the distance of the lens from the wall as a function of desired image width.

4. How can you determine if the room is large enough to project an image that is 7 ft wide?

5. Is the room large enough to project an image that is 7 ft wide? Explain.

6. How can you determine the maximum image width that can be projected in this room?

7. What is the maximum image width you can project in the room? Show your work.

4-5

Practice

Form K

Writing a Function Rule

Write a function rule that represents each sentence.

1. 8 less than one third of x is y .
2. 12 more than the quotient of a number t and 7 is v .
3. z is 6 more than twice y .
4. 10 more than 8 times a number a is b .

For Exercises 5–7, write a function rule that represents each situation.

5. The price p of a large, cheese pizza is \$7.95 plus \$0.75 for each topping t on the pizza.
6. Jaquelyn's earnings m are a function of the number of lawns n she mows at a rate of \$12 per lawn.
7. The total fees f of a book club membership are \$10 per month m and a one-time administrative fee a of \$4.75.
8. Eric is 2 years younger than 2 times his sister's age. Write a rule that represents Eric's age a as a function of his sister's age s . How old is Eric if his sister is 11?

4-5

Practice (continued)

Form K

Writing a Function Rule

9. An online music club charges \$5.75 for the first music download and \$2 for each additional download per month. Write a rule for describing the total monthly fees f as a function of additional downloads d . What are the fees for 15 music downloads in a month?
10. Write a function rule for the area of a rectangle whose length is 6 ft more than its width. What is the area of the rectangle when its width is 12 ft?
11. Write a function rule for the area of a rectangle with a length 7 m more than three times its width. What is the area of the rectangle when its width is 3 m?
12. Write a function rule for the area of a triangle with a base 10 cm less than 8 times its height. What is the area of the triangle when its height is 5 cm?
13. **Reasoning** Is the graph of a function that relates a square's side length to its perimeter *continuous* or *discrete*? Explain.
14. **Open-Ended** Describe a real-world situation that can be represented by a linear function. Describe a change that could occur in this situation that would change it to a nonlinear function.

4-5 Standardized Test Prep

Writing a Function Rule

Multiple Choice

For Exercises 1–5, choose the correct letter.

- Jill earns \$45 per hour. Using p for her pay and h for the hours she works, what function rule represents the situation?
A. $h = 45p$ B. $p = 45h$ C. $h = p + 45$ D. $p = h + 45$
- What is a function rule for the perimeter P of a building with a rectangular base if the width w is two times the length l ?
F. $p = 2l$ G. $p = 2w$ H. $p = 6l$ I. $p = 6w$
- Which function rule can be used to represent the area of a triangle with a base b 8 in. longer than twice the height h in terms of the height?
A. $A = \frac{1}{2}bh$ C. $A = h^2 + 4h$
B. $A = \frac{1}{2}h(h + 8)$ D. $A = \frac{1}{2}(2h)(h + 8)$
- Which equation represents the sentence “ d is 17 less than the quotient of n and 4”?
F. $d = \frac{n}{4} - 17$ H. $d = 4n - 17$
G. $d = \frac{n}{4} + 17$ I. $d - 17 = \frac{n}{4}$
- The function rule for the profit a company expects to earn is $P = 1500m + 2700$, where P represents profit and m represents the number of months the company has been in business. How much profit should the company earn after 12 months in business?
A. \$15,700 B. \$17,700 C. \$18,000 D. \$20,700

Extended Response

- A plane was flying at an altitude of 30,000 feet when it began the descent toward the airport. The airplane descends at a rate of 850 feet per minute.
 - What is the function rule that describes this situation?
 - What is the altitude of the plane after it has descended for 8 minutes? Show your work.
 - How long will it take for the airplane to land on the ground if it continues to descend at the same rate? Show your work.

4-6**Think About a Plan**

Formalizing Relations and Functions

Car Wash A theater group is having a carwash fundraiser. The liquid soap costs \$34 and is enough to wash 40 cars. Each car is charged \$5.

- If c is the total number of cars washed and p is the profit, which is the independent variable and which is the dependent variable?
- Is the relationship between c and p a function? Explain.
- Write an equation that shows this relationship.
- Find a reasonable domain and range for the situation.

Understanding the Problem

- What are the expenses associated with the car wash?

- If c is the total number of cars washed and p is the profit, which is the independent variable and which is the dependent variable? Explain.

Planning the Solution

- How do you know if a relation is a function?

- How are a reasonable domain and range determined for a function?

- What limitations does the domain of this function have?

Getting an Answer

- Is the relationship between c and p a function? Explain.

- Write an equation that shows this relationship.

- Describe a reasonable domain and range for the situation.

4-6

Practice

Form K

Formalizing Relations and Functions

Identify the domain and range of each relation. Use a mapping diagram to determine whether the relation is a function.

1. $\{(2, 4), (8, 11), (9, 1), (4, 2)\}$

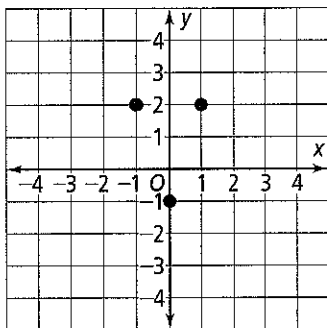
2. $\{(5, 2.2), (3, 2.6), (1, 2.6), (0, 2.5)\}$

3. $\{(-4, -6), (1, -2), (-4, 4), (-1, 2)\}$

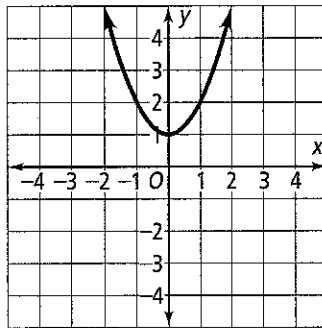
4. $\{(6, 5), (5, 6), (2, 2), (2, 6)\}$

Use the vertical line test to determine whether the relation is a function.

5.



6.



4-6

Practice (continued)

Form K

Formalizing Relations and Functions

Find the range of each function for the given domain.

7. $f(x) = -4x + 3; \{-1, 0, 1, 2, 3\}$

8. $f(x) = x^3 + 1; \{-2, -1, 0, 1, 2\}$

9. $f(x) = x - 6; \{-5, -3, -1, 1, 3\}$

10. $f(x) = x^2 - 2; \{-4, -2, 0, 1, 3\}$

11. A tenth grade class is selling granola bars for a fundraiser. They earn \$0.75 for every granola bar that they sell. They have ordered 300 granola bars for the sale. The function $P(b) = 0.75b$ represents the profit P the class earns for each bar b they sell. Find a reasonable domain and range for the function.

12. The function $t(x) = 150x$ represents the number of words $t(x)$ you can speak in x minutes. How many words can you speak in 20 minutes?

13. **Reasoning** If $f(x) = x^2 - 15$ and $f(a) = 49$, what is the value of a ? Explain.

14. **Open-Ended** What is a value of x that makes the relation $\{(3, 5), (2, 5), (9, x)\}$ a function?

4-6 Standardized Test Prep

Formalizing Relations and Functions

Gridded Response

Solve each exercise and enter your answer on the grid provided.

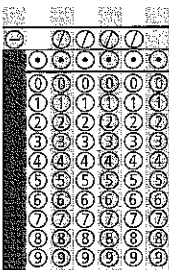
1. What is $f(-3)$ for the function $f(x) = -5x - 7$?

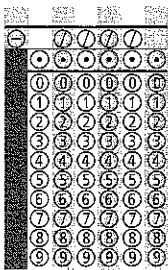
2. You have returned some merchandise to a store and received a store credit of \$23. In the same store, you are purchasing picture frames that cost \$9 each. The function $f(x) = 9x - 23$ represents your total cost $f(x)$ if you purchase x picture frames. How many dollars will you pay if you purchase 7 picture frames?

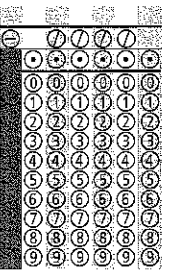
3. If $f(x) = 12x + 14$, what is the range value for the domain value 3?

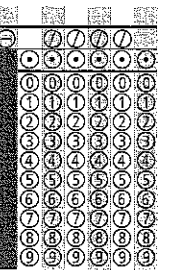
4. When Jerome travels on the highway, he sets his cruise control at 65 mi/h. The function $f(x) = 65x$ represents his total distance $f(x)$ when he has traveled x hours. How many miles will he have travelled after 3.5 hours of driving on the highway?

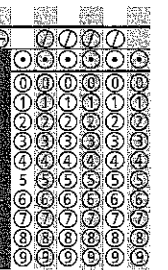
5. For what value of x is the value of $f(x) = 4x - 2$ equal to 18?

1. 

2. 

3. 

4. 

5. 

4-7 **Think About a Plan**

Sequences and Functions

Transportation Buses on your route run every 9 minutes from 6:00 A.M. to 10:00 A.M. You get to the bus stop at 7:16 A.M. How long will you wait for a bus?

Understanding the Problem

1. What is the maximum amount of time you should have to wait for a bus?

2. How many minutes after the buses begin running at 6:00 A.M. do you arrive at the bus stop?

3. What time does the first bus of the day arrive at your bus stop?

Planning the Solution

4. Fill in the table at the right showing the times a bus will stop at your stop.

5. What is the common difference?

6. According to the table, when will the next bus arrive at your bus stop?

Getting an Answer

7. How long will you wait for a bus?

4-7

Practice

Form K

Sequences and Functions

Describe the pattern in each sequence. Then find the next two terms of the sequence.

1. 15, 11, 7, 3, $-1, \dots$

2. $-2, 2, 6, 10, 14, \dots$

3. 1.5, 3, 4.5, 6, \dots

4. 6.8, 5.4, 4, 2.6, \dots

5. 1, 10, 19, 28, \dots

6. $-27, -22, -17, -12, \dots$

Tell whether the sequence is arithmetic. If it is, identify the common difference.

7. 9, 15, 21, 27, \dots

8. $-14, -10, -7, -3, \dots$

9. $-9, 6, 21, 36, \dots$

10. 1, 5, 7, 9, \dots

11. 7, $-5, -17, -29, \dots$

12. 72, 48.5, 25, 1.5, \dots

13. You budget \$100 for parking each month. Each day you use the downtown parking lot, it costs you \$5. Write a rule to represent the amount of money left in your monthly budget as an arithmetic sequence. How much money is left in your budget after you have used the downtown parking lot 11 times this month?

14. You start an investment account with \$3000 and save \$100 each month. Write a rule to represent the total amount of money you invest into your account as an arithmetic sequence. How much money will you have invested after 12 months?

4-7

Practice (continued)

Form K

Sequences and Functions

Find the fourth, sixth, and thirteenth terms of the sequence described by each rule.

15. $A(n) = 6 + (n - 1)(-2)$

16. $A(n) = 12 + (n - 1)(5)$

17. $A(n) = -2.2 + (n - 1)(-1)$

18. $A(n) = 5 + (n - 1)(0.5)$

19. $A(n) = -3 + (n - 1)(6)$

20. $A(n) = -7.6 + (n - 1)(3)$

Tell whether each sequence is arithmetic. Justify your answer. If the sequence is arithmetic, write a function rule to represent it.

21. 22, 16, 10, 4, ...

22. 6, 12, 24, 48, ...

23. -18, -9, 0, 9, ...

24. 1.5, 2.1, 2.7, 3.3, ...

25. **Open-Ended** Write an arithmetic sequence whose common difference is -18 .

26. **Reasoning** The initial term of an arithmetic sequence is 5. The eleventh term is 125. What is the common difference of the arithmetic sequence?

27. **Writing** Explain how you can determine if a sequence is arithmetic.

4-7

Standardized Test Prep

Sequences and Functions

Multiple Choice

For Exercises 1-5, choose the correct letter.

- What are the next two terms of the following sequence? $-3, 1, 5, 9, \dots$
A. $-7, -11$ B. $10, 11$ C. $12, 15$ D. $13, 17$
- What are the next two terms of the following sequence? $-2, 4, -8, 16, \dots$
F. $-32, -64$ G. $32, -64$ H. $-32, 64$ I. $32, 64$
- What is the common difference of the following arithmetic sequence?
 $13, -7, -27, -47, \dots$
A. -20 B. -6 C. -4 D. 20
- What is the ninth term of the arithmetic sequence defined by the rule
 $A(n) = -14 + (n - 1)(2)$?
F. -32 G. -30 H. 2 I. 4
- Each time a touchdown is scored in a football game, 6 points are added to the score of the scoring team. A team already has 12 points. What rule represents the number of points as an arithmetic sequence?
A. $A(n) = 12 + 6n$ C. $A(n) = 12 + (n - 1)(6)$
B. $A(n)12 - (n - 1)(6)$ D. $A(n) = 12 + (n - 6)$

Short Response

- A friend opens a savings account by depositing \$1000. He deposits an additional \$75 into the account each month.
 - What is a rule that represents the amount of money in the account as an arithmetic sequence?
 - How much money is in the account after 18 months? Show your work.