Chapter 6 Final Review

Multiple Choice
Identify the choice that best completes the statement or answers the question.

Find the value of y for the given value of x.

____ 1. $y = 4x - 8$; $x = 6$
   a. 2
   b. 24
   c. 4
   d. 16

____ 2. $y = 8x + 3$; $x = 0.5$
   a. 4
   b. 7
   c. 3.5
   d. 11

Use the graph or table to write a linear function that relates y to x.

____ 3.

x	−3	0	3	6
y	5	6	7	8

   a. $y = \dfrac{1}{3}x - 6$
   b. $y = \dfrac{1}{3}x + 6$
   c. $y = -\dfrac{1}{3}x + 6$
   d. $y = 3x - 6$

____ 4.

| x	−6	−3	0	3
y	12	6	0	−6

   a. $y = \dfrac{1}{2}x$
   b. $y = -2x$
   c. $y = -\dfrac{1}{2}x$
   d. $y = 2x$

____ 5.
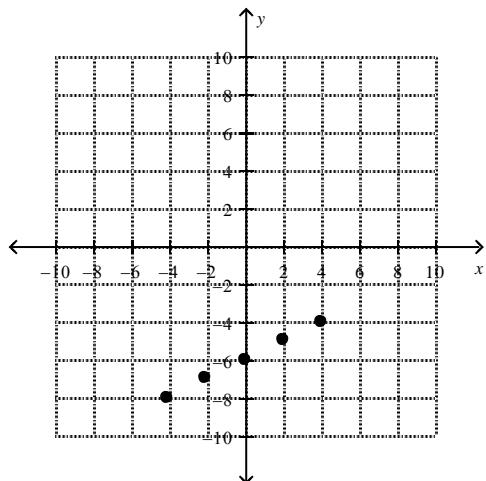
   a. $y = \dfrac{1}{2}x + 6$
   b. $y = 2x + 6$
   c. $y = -\dfrac{1}{2}x - 6$
   d. $y = \dfrac{1}{2}x - 6$

_____ 6.

a. $y = -\dfrac{2}{3}x - 2$

b. $y = \dfrac{2}{3}x + 2$

c. $y = -\dfrac{2}{3}x + 2$

d. $y = -\dfrac{3}{2}x - 2$

_____ 7.

a. $x = -3$

b. $y = -3$
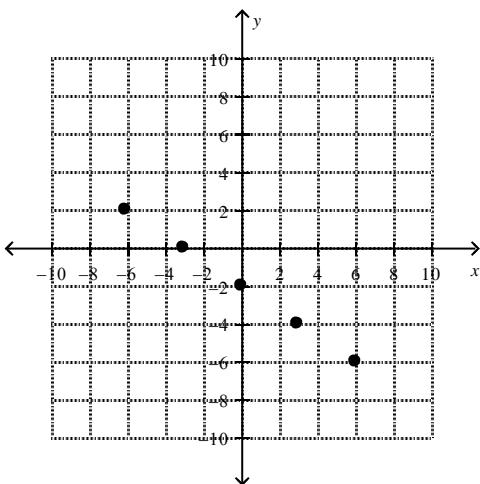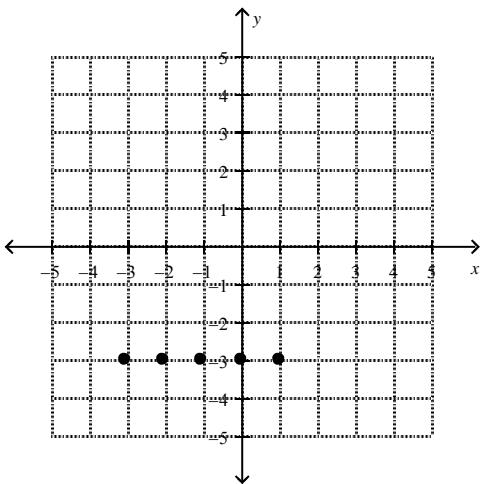
c. $x = y - 3$

d. $y = x - 3$

_____ 8. Which equation represents the function shown in the input-output table below?

Input, x	1	2	3	4
Output, y	10	17	24	31

a. $y = 10x$

b. $y = 7x + 3$

c. $y = 3x + 7$

d. $y = x + 9$

_____ 9. Which description is a correct way to solve the equation below?

$\dfrac{x}{5} + 4.3 = 12.4$

a. Subtract 4.3 from both sides then divide both sides by 5.
b. Add 4.3 to both sides then multiply both sides by 5.
c. Subtract 4.3 from both sides then multiply both sides by 5.
d. Add 4.3 to both sides then divide both sides by 5.

_____ 10. Which point appears on the graph of the function below?

$y = 2x + 3$

a. (0, 0)
b. (0, 3)
c. (3, 0)
d. (−3, 0)

Write a function rule for the statement.

_____ 11. The output is six times the input.

a. $y = 6x$
b. $y = x \div 6$
c. $x = 6y$
d. $y = 6 + x$

Name the word that matches the definition given.

_____ 12. A ____ pairs inputs with outputs and can be represented by ordering pairs on a mapping diagram.

a. input
b. output
c. relation
d. mapping diagram
e. function
f. function rule

_____ 13. A function whose graph is a nonvertical line; a function that has a constant rate of change.

a. linear function
b. nonlinear function
c. relation
d. mapping diagram
e. function
f. function rule

_____ 14. Determine which relation is a function.

a.

Input   Output

b.

Input   Output

c.

Input   Output

d.

Input   Output
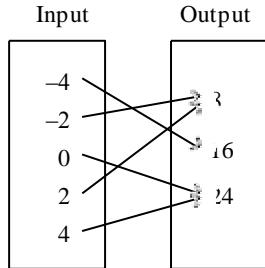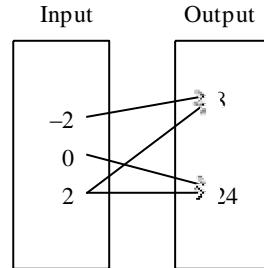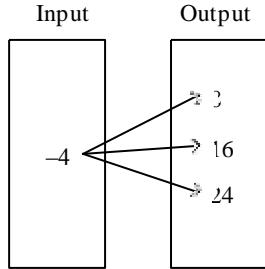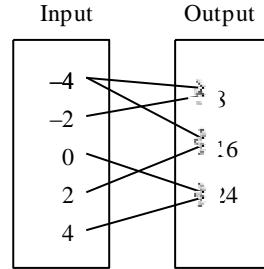
Write an equation that describes the function.

_____ 15.

Input, x	Output, y
24	18
33	27
42	36
51	45
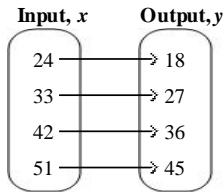
a. $y = 2x - 30$

b. $y = \dfrac{4}{3}x$

c. $y = x - 6$

d. $y = \dfrac{3}{4}x$

_____ 16.

| Input, x	Output, y
1	2
2	4
3	6
4	8
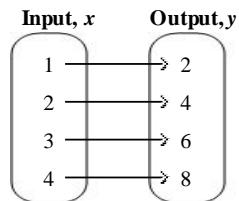
a. $y = 4x - 2$

b. $y = 3 - x$

c. $y = 2x$

d. $y = x + 1$

Which function does the graph represent?

_____ 17.
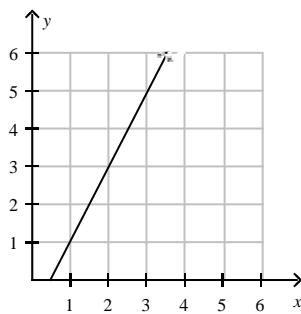
a. $y = x + 1$

b. $y = 0.5x$

c. $y = 2x - 1$

d. $y = x$

_____ 18. Describe the relationship between the two quantities.
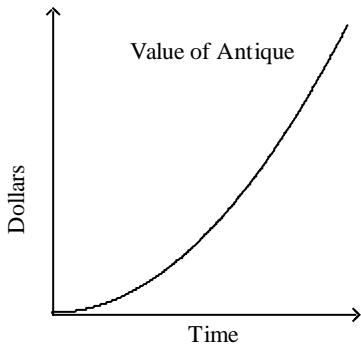
a. The value of the antique increases rapidly at a constant rate.

b. The value of the antique decreases over time at an increasing rate.

c. The value of the antique starts off increasing slowly but increases more rapidly as time passes.

d. The value of the antique increases quickly at first and then increases more slowly as time passes.

_____ 19. Use the table below. Which linear function relates y to x?

x	1	3	5	7	9
y	11	9	7	5	3

a. $y = 11x$

b. $y = -2x + 13y$

c. $y = -x + 12$

d. $y = x - 2$

_____ 20. What value of x makes the equation below true?

$4x + 8 = 18 + 2x$

a. 2.5

b. 5

c. 6.5

d. 13

_____ 21. The profit y from selling x muffins can be represented by a linear function. The profit from selling 5 muffins is $4. The profit from selling 7 muffins is $8. What is the slope of the line represented by the data?

a. $\dfrac{1}{2}$

b. 1

c. $\dfrac{4}{5}$

d. 2

Numeric Response

Find the value of y for the given value of x.

1. $y = 7x + 4$; $x = 8$

2. The table shows the number y of muffins baked in x pans. What is the missing y-value that makes the table represent a linear function?

Pans, x	3	4	5
Muffins, y	18	?	30

Find the value of x for the given value of y.

3. $y = 4x + 2$; $y = 34$

4. The table shows the cost y (in dollars) for x theater tickets. Find the missing y-value that makes the table represent a linear function.

Tickets, x	2	4	6
Cost, y	26	?	78

Chapter 6 Final Review
Answer Section

MULTIPLE CHOICE

1. D
2. B
3. B
4. B
5. D
6. A
7. B
8. B
9. C
10. B
11. A
12. C
13. A
14. A
15. C
16. C
17. C
18. C
19. C
20. B
21. D

NUMERIC RESPONSE

1. 60
2. 24
3. 8
4. 52