Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Chapter 6 Final Review

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

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

____ 1.

x	–6	–3	0	3
y	12	6	0	–6

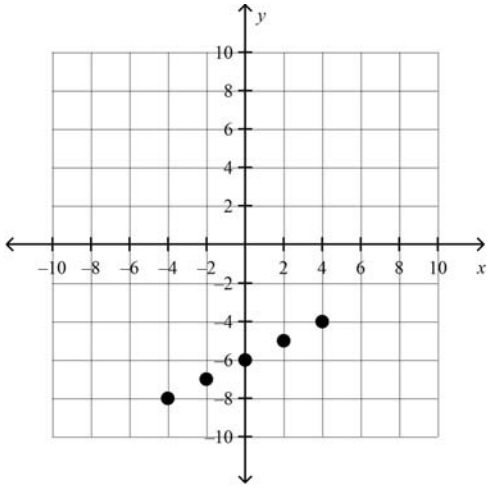
a. $y = \frac{1}{2}x$
b. $y = -2x$
c. $y = -\frac{1}{2}x$
d. $y = 2x$

____ 2.

x	–3	0	3	6
y	7	3	–1	–5

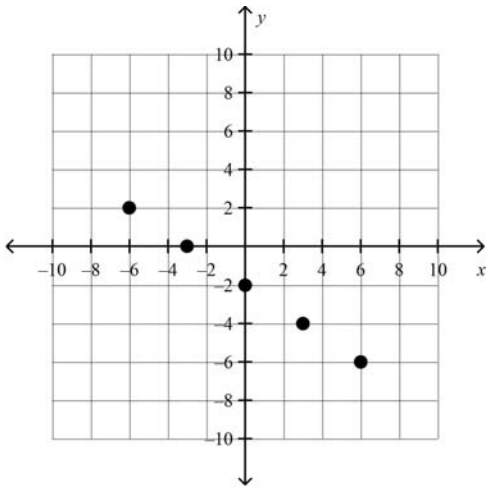
a. $y = -\frac{4}{3}x - 3$
b. $y = -\frac{4}{3}x + 3$
c. $y = \frac{4}{3}x + 3$
d. $y = -\frac{3}{4}x - 3$

____ 3.



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

____ 4.



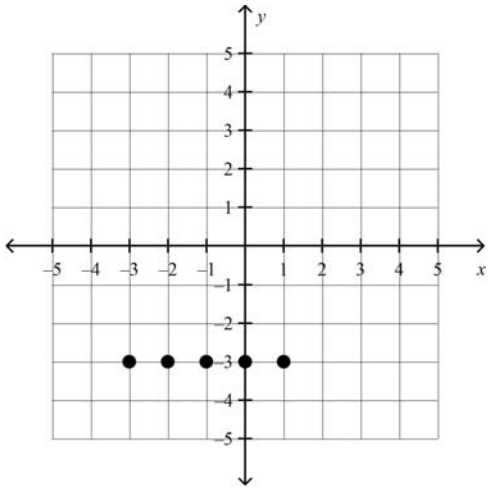
a. $y = -\frac{2}{3}x - 2$

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

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

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

____ 5.



a. $x = -3$

b. $y = -3$

c. $x = y - 3$

d. $y = x - 3$

____ 6.

x	–4	–2	0	2
y	–2	–1	0	1

a. $y = 2x$

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

c. $y = -2x$

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

____ 7. 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. $\frac{1}{2}$
b. 1
c. $\frac{4}{5}$
d. 2

____ 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?

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

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)

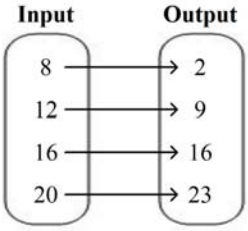
____ 11. What is the value of w in the equation below when $z = 4$?

$w = 12z - 9.7$

a. 2.3
b. 38.3
c. 57.7
d. 114.3

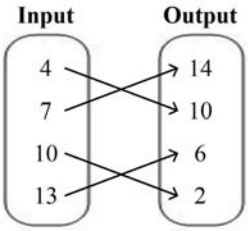
List the ordered pairs shown in the mapping diagram.

____ 12.



a. (8, 9), (12, 16), (16, 23), (20, 2)
b. (2, 20), (9, 16), (16, 12), (23, 8)
c. (2, 8), (9, 12), (16, 16), (23, 20)
d. (8, 2), (12, 9), (16, 16), (20, 23)

____ 13.



a. (4, 10), (7, 14), (10, 2), (13, 6)
b. (4, 14), (7, 10), (10, 6), (13, 2)
c. (14, 7), (10, 4), (6, 13), (2, 10)
d. (4, 10), (7, 14), (10, 6), (13, 2)

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

____ 14. $y = 2x - 2; \quad y = 18$

a. 20
b. 10
c. 11
d. 34

____ 15. $y = \frac{x}{3} - 12; \quad y = 24$

a. 108
b. 20
c. 84
d. 36

Write a function rule for the statement.

____ 16. The output is six times the input.

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

____ 17. The output is five less than the input.

a. $y = 5$
b. $y = x - 5$
c. $y = 5x$
d. $y = 5 - x$

____ 18. The output is eight more than the input.

a. $y = 8 - x$
b. $y = x - 8$
c. $y = 8 + x$
d. $y = 8x$

____ 19. The output is one-fifth of the input.

a. $x = \frac{1}{5}y$
b. $y = 5x$
c. $y = x \div \frac{1}{5}$
d. $y = \frac{1}{5}x$

Name the word that matches the definition given.

____ 20. In a relation, ____ is associated with output.

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

____ 21. A way to represent a relation.

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

____ 22. A relation that pairs each input with exactly one output.

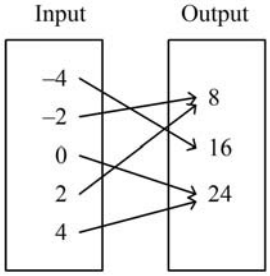
a. input
b. output
c. relation
d. mapping diagram
e. function
f. function rule

____ 23. An equation that describes the relationship between inputs (independent variable) and outputs (dependent variable)

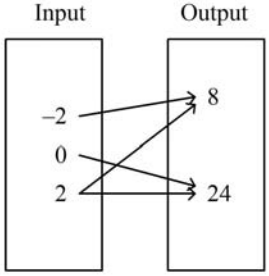
a. input
b. output
c. relation
d. mapping diagram
e. function
f. function rule

____ 24. Determine which relation is a function.

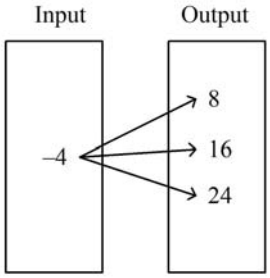
a.



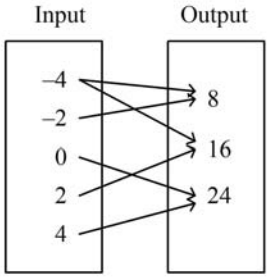
c.



b.



d.



Write an equation that describes the function.

____ 25.

Input, x	Output, y
2	14
4	16
6	18
8	20

a. $y = x + 2$
b. $y = x - 2$
c. $y = x + 12$
d. $y = x + 14$

____ 26.

Input, x	Output, y
2	6
3	9
4	12
5	15

a. $y = 3x$
b. $y = x \div 3$
c. $y = x + 6$
d. $y = x + 4$

____ 27.

Input, x	Output, y
8	4
9	5
10	6
11	7

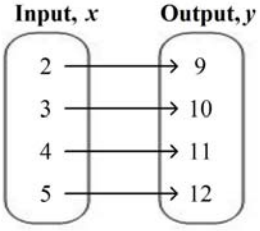
a. $y = x + 8$
b. $y = x - 8$
c. $y = x + 4$
d. $y = x - 4$

____ 28.

Input, x	Output, y
4	1
8	2
12	3
16	4

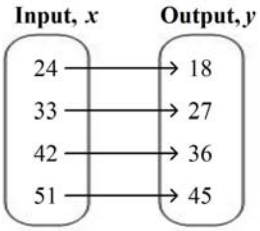
a. $y = x + 3$
b. $y = 4x$
c. $y = \frac{x}{4}$
d. $y = x - 3$

____ 29.



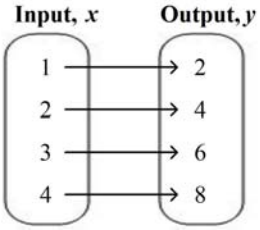
a. $y = \frac{2}{9}x$
b. $y = 2x + 5$
c. $y = x + 7$
d. $y = \frac{9}{2}x$

____ 30.



a. $y = 2x - 30$
b. $y = \frac{4}{3}x$
c. $y = x - 6$
d. $y = \frac{3}{4}x$

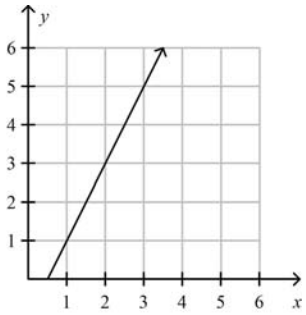
____ 31.



a. $y = 4x - 2$
b. $y = 3 - x$
c. $y = 2x$
d. $y = x + 1$

Which function does the graph represent?

____ 32.

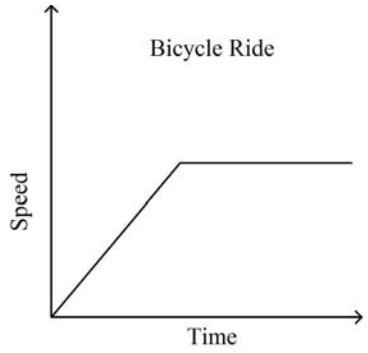


a. $y = x + 1$
b. $y = 0.5x$
c. $y = 2x - 1$
d. $y = x$

____ 33. Which equation does not belong with the other three?

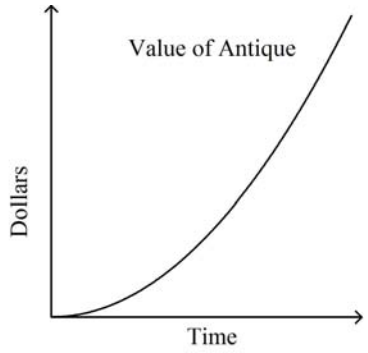
a. $12 = 7xy$
b. $y = \frac{7}{12}x$
c. $60y = 35x$
d. $12y = 7x$

____ 34. Describe the relationship between the two quantities.



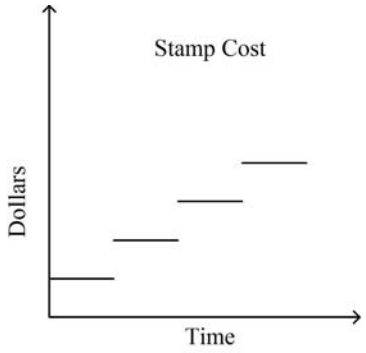
a. The bike speed stays the same.
b. The bike speed increases over time at an decreasing rate.
c. The speed of the bicycle increases quickly, then stays at a constant speed.
d. The bike speed is constant at first and then increases steadily as time passes.

____ 35. 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.

____ 36. Describe the relationship between the two quantities.



a. The cost of stamps increases instantly as the amount of stamps purchased increases.
b. The cost of stamps decreases over time at an increasing rate.
c. The cost of stamps increases at a constant rate.
d. The cost of stamps is constant at first and then increases steadily as time passes.

Chapter 6 Final Review
Answer Section

MULTIPLE CHOICE

1. B
2. B
3. D
4. A
5. B
6. D
7. D
8. B
9. C
10. B
11. B
12. D
13. A
14. B
15. A
16. A
17. B
18. C
19. D
20. A
21. D
22. E
23. F
24. A
25. C
26. A
27. D
28. C
29. C
30. C
31. C
32. C
33. A
34. C
35. C
36. A