

Algebra--Ch. 5 Test REVIEW

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- _____ 1. A plane that carries mail makes a round trip each day from Chicago to New York. It makes 3 intermediate stops on the way to New York and 1 intermediate stop on the way back to Chicago. Suppose you make a graph of the altitude of the plane for one day, with time on the horizontal axis and altitude on the vertical axis. How many times will the graph touch the horizontal axis?
- a. 11 b. 6 c. 7 d. 4

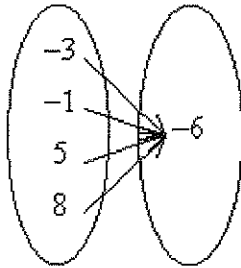
- _____ 2. Find the domain and range of the relation.

Age of Person	Books Read
65	42
36	37
29	37
29	17

- a. domain: {29, 29, 36}
range: {17, 37, 42}
- b. domain: {29, 29, 36}
range: {37, 37, 42}
- c. domain: {29, 36, 65}
range: {37, 37, 42}
- d. domain: {29, 36, 65}
range: {17, 37, 42}

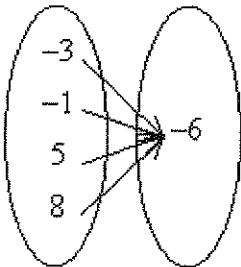
___ 3. Identify the mapping diagram that represents the relation and determine whether the relation is a function.
 $\{(-3, -6), (-1, -6), (5, -6), (8, -6)\}$

a.



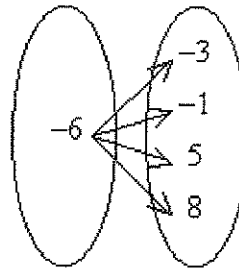
The relation is not a function.

b.



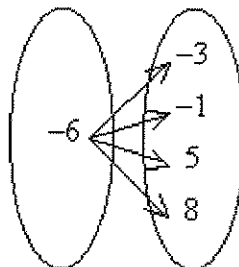
The relation is a function.

c.



The relation is a function.

d.



The relation is not a function.

___ 4. Evaluate $f(x) = -4x - 1$ for $x = 2$.
 a. -8 b. 9

c. 7

d. -9

___ 5. Evaluate $f(x) = x^2 - 2$ for $x = -3$.
 a. 7 b. 5

c. 9

d. -5

___ 6. Evaluate $f(x) = -x^2 + 1$ for $x = -3$.
 a. -9 b. -4

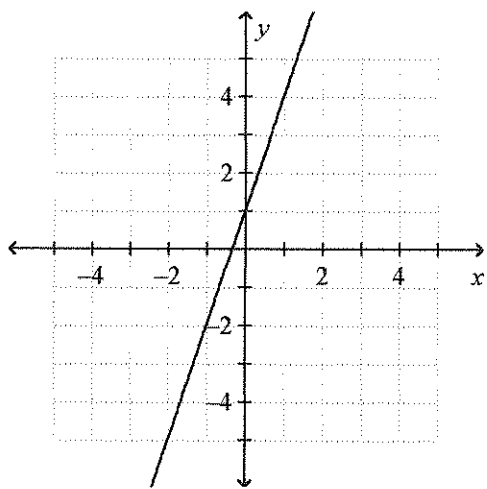
c. -8

d. 4

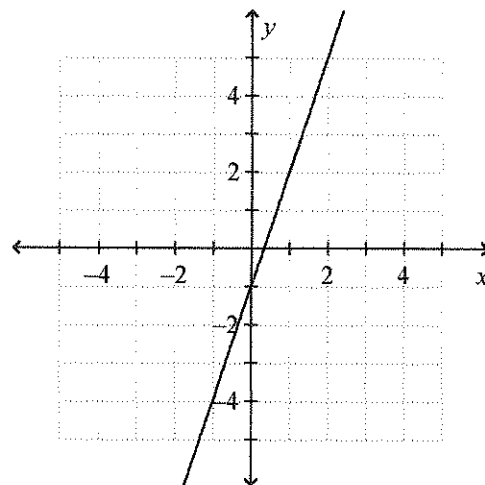
Graph the function.

7. $y = -3x - 1$

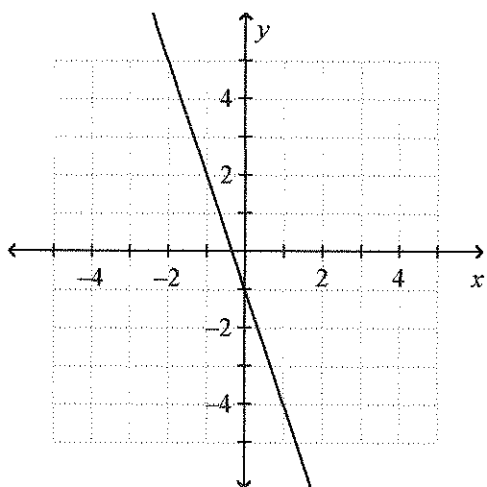
a.



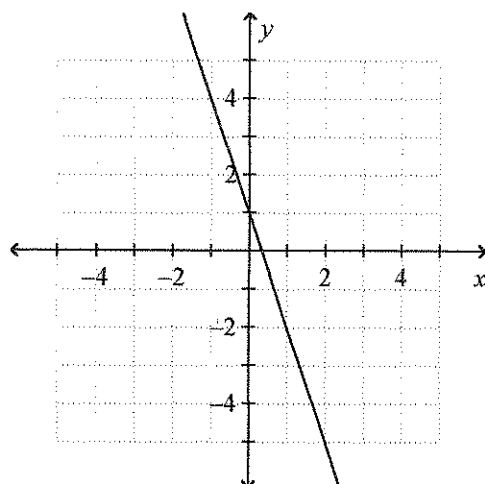
c.



b.

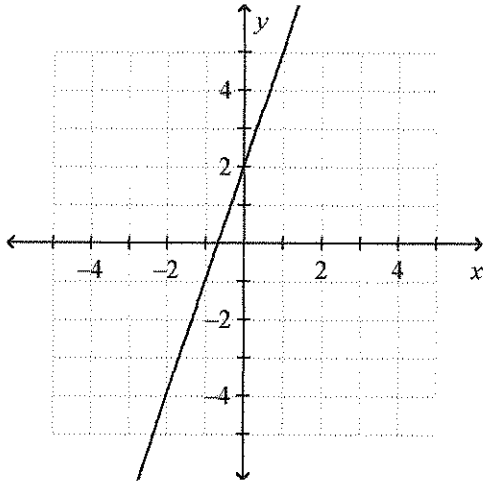


d.

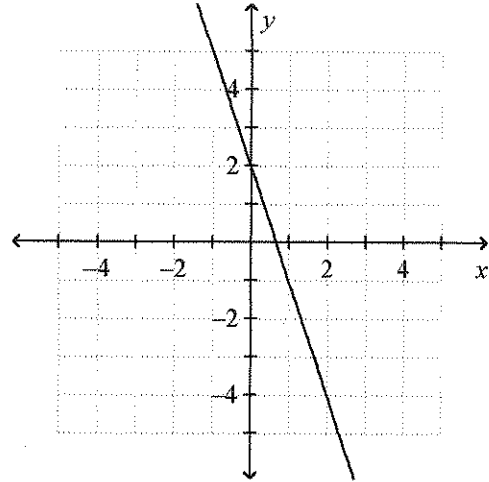


8. $y = 3x + 2$

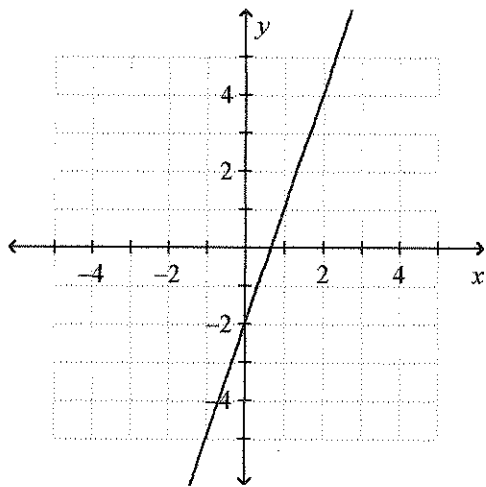
a.



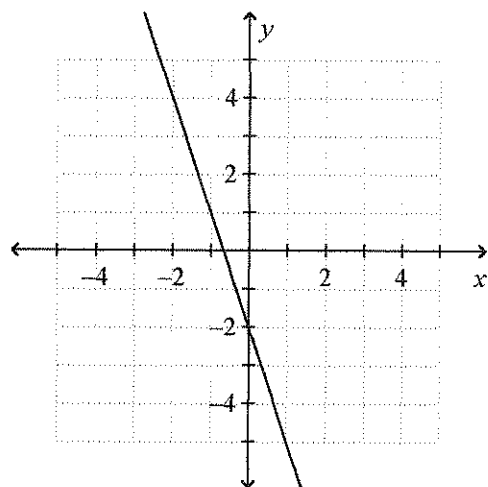
c.



b.

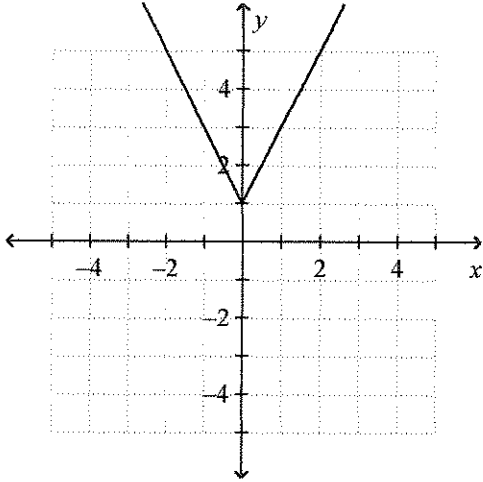


d.

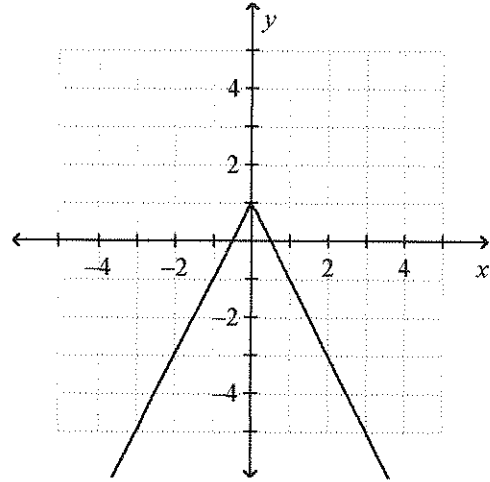


9. $y = |2x| + 1$

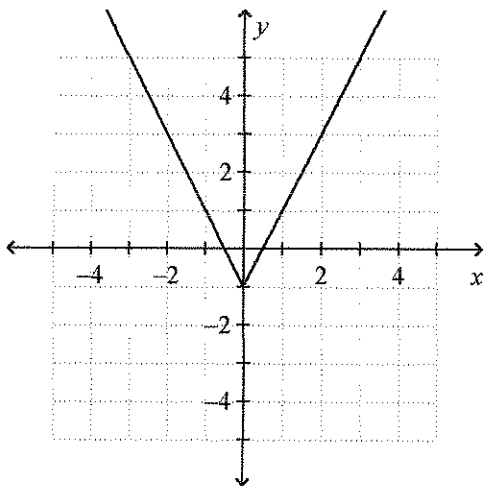
a.



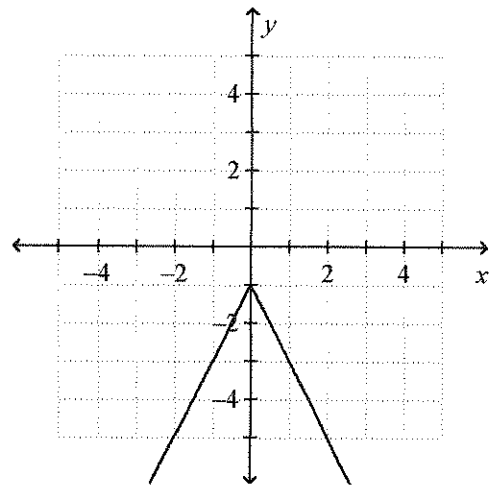
c.



b.

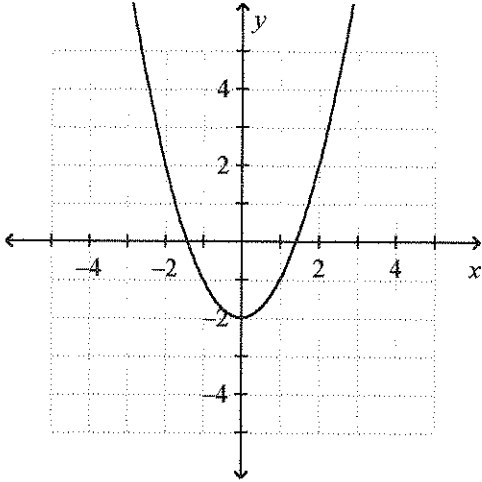


d.

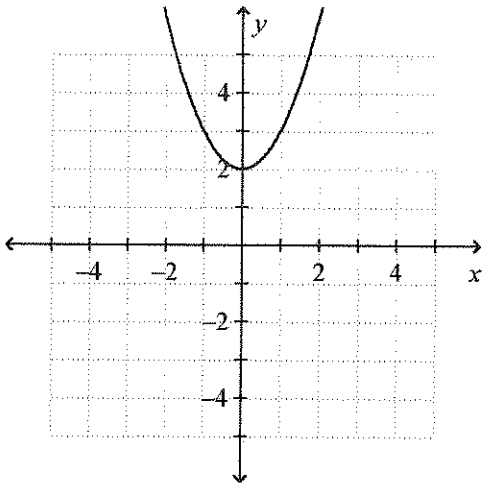


10. $y = x^2 - 2$

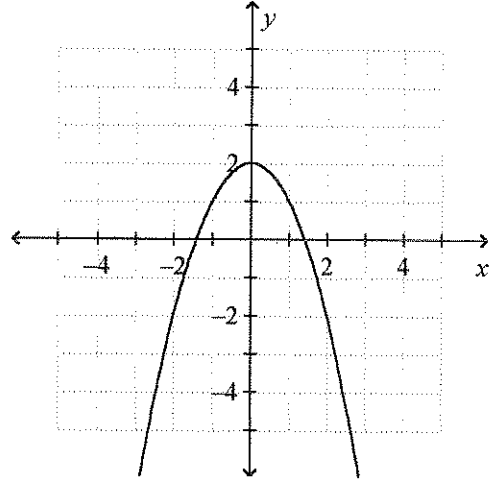
a.



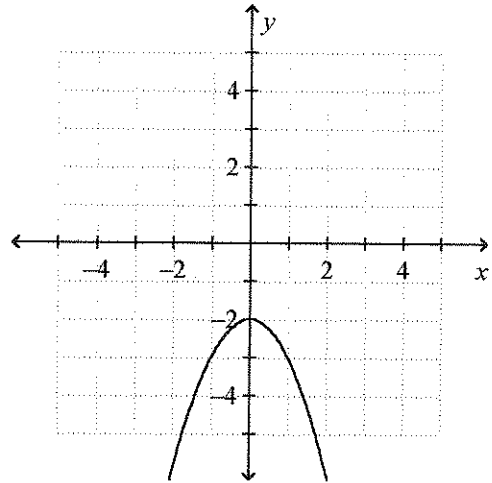
b.



c.

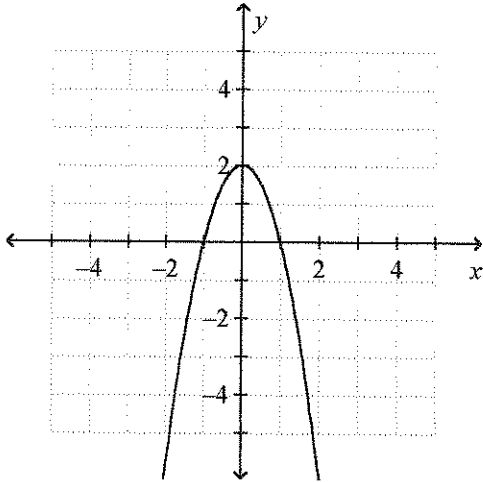


d.

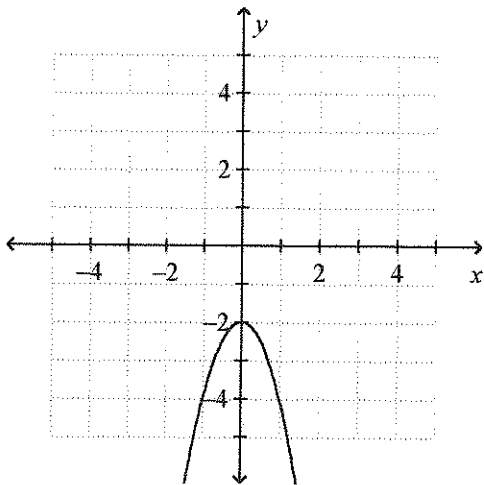


11. $y = -2x^2 - 2$

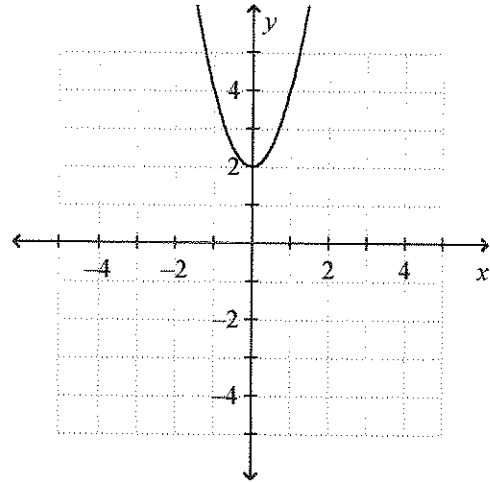
a.



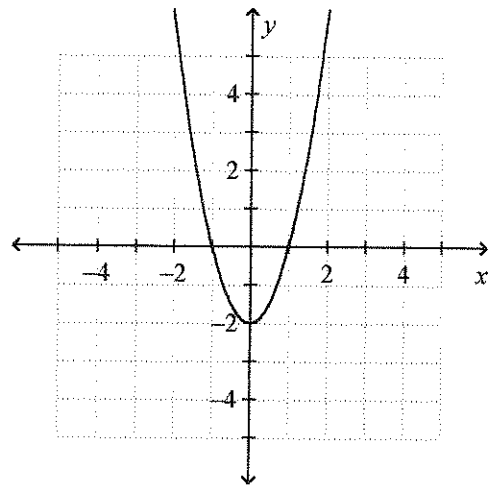
b.



c.



d.



Write a function rule for the table.

12.

x	$f(x)$
2	4
3	5
4	6
5	7

a. $f(x) = -2 - x$

b. $f(x) = x + 2$

c. $f(x) = x - 2$

d. $f(x) = 2x$

18.

x	$f(x)$
-1	2
0	0
2	-4
5	-10

- a. $k = -1.5$ b. $k = 2$ c. $k = -0.5$ d. $k = -2$

19. Write an equation of the direct variation that includes the point $(9, -12)$.

- a. $y = \frac{1}{3}x$ b. $y = -\frac{1}{12}x$ c. $y = -\frac{1}{3}x$ d. $y = -\frac{3}{4}x$

20. The amount of a person's paycheck p varies directly with the number of hours worked t . For 16 hours of work, the paycheck is \$124.00. Write an equation for the relationship between hours of work and pay.

- a. $p = 77.50t$ b. $p = t + 77.50$ c. $p = 7.75t$ d. $p = t + 7.75$

21. The distance a spring will stretch varies directly with how much weight is attached to the spring. If a spring stretches 9 inches with 100 pounds attached, how far will it stretch with 90 pounds attached? Round to the nearest tenth of an inch.

- a. 8.9 in. b. 10 in. c. 8.1 in. d. 9.1 in.

Use inductive reasoning to describe the pattern. Then find the next two numbers in the pattern.

22. $-4, 0, 4, 8, \dots$

- a. subtract 4 from the previous term; 4, 0
b. add 4 to the previous term; 12, 16
c. multiply the previous term by 4; 12, 128
d. multiply the previous term by 4; 32, 128

- _____ 23. $-3, -6, -12, -24, \dots$
- a. add -3 to the previous term; $-21, -18$
 - b. subtract 3 from the previous term; $-48, -96$
 - c. multiply the previous term by -2 ; $48, -96$
 - d. multiply the previous term by 2; $-48, -96$

Find the common difference of the arithmetic sequence.

- _____ 24. $9, 14, 19, 24, \dots$
- a. $\frac{9}{14}$
 - b. 5
 - c. $1\frac{5}{9}$
 - d. 23

Find the first, fourth, and tenth terms of the arithmetic sequence described by the given rule.

- _____ 25. $A(n) = 12 + (n - 1)(3)$
- a. 12, 24, 42
 - b. 0, 9, 27
 - c. 3, 24, 27
 - d. 12, 21, 39