

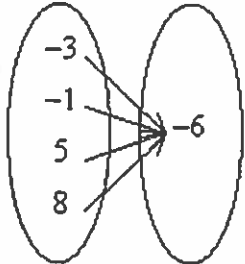
Algebra 1 Chapter 5 Practice Test

Multiple Choice

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

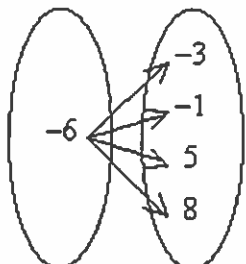
- b 1. Identify the mapping diagram that represents the relation and determine whether the relation is a function.  
 $\{(-3, -6), (-1, -6), (5, -6), (8, -6)\}$

a.



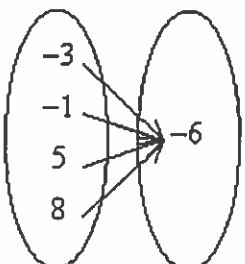
The relation is not a function.

c.



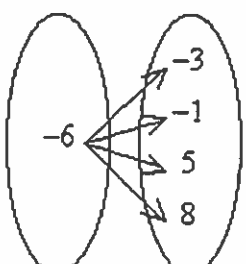
The relation is a function.

b



The relation is a function.

d.



The relation is not a function.

B

2. A taxi company uses the rule  $c = 0.30m + 1.50$  to determine a total cost  $c$  based on the number of miles  $m$ .
- a. What is the cost for a 1-mile ride?  
 b. What is the cost for a 2.7-mile ride?
- a. \$0.30; \$0.81    b. \$1.80; \$2.31    c. \$1.50; \$1.80    d. \$0.30; \$4.35

$(a) c = (0.30)(1) + 1.50 = 1.80$   
 $(b) c = (0.30)(2.7) + 1.50 = 0.81 + 1.50 = 2.31$

C

3. Crystal earns \$5.00 per hour mowing lawns.
- a. Write a rule to describe how the amount of money  $m$  earned is a function of the number of hours  $h$  spent mowing lawns.
- a.  $m(h) = h + 15$     c.  $m(h) = 5.00h$   
 b.  $m(h) = \frac{h}{5.00}$     d.  $m(h) = 5.00h + 15$

A

4. The total cost to rent a row boat is \$20 times the number of hours the boat is used. Write an equation to model this situation if  $c$  = total cost and  $h$  = number of hours.

- a.  $c = 20h$       b.  $c = \frac{h}{20}$       c.  $c - 20 = h$       d.  $h = 20c$

C

5. What equation models the data in the table if  $d$  = number of days and  $c$  = cost?

Days	Cost
2	6
3	9
5	15
6	18

$c = 3d$

- a.  $c = d + 3d$       b.  $d = 3c$       c.  $c = 3d$       d.  $c = d + 3$

Short Answer - SHOW ALL WORK FOR FULL CREDIT

6. Find the range of  $f(x) = 3x - 4$  for the domain  $\{-1, 1, 3, 6\}$ .

$R = \{-7, -1, 5, 14\}$

x	$3x - 4$	f(x)
-1	$3(-1) - 4 = -3 - 4$	-7
1	$3(1) - 4 = 3 - 4$	-1
3	$3(3) - 4 = 9 - 4$	5
6	$3(6) - 4 = 18 - 4$	14

7. Evaluate  $f(x) = 2x + 1$  for  $x = -1$ .

$2(-1) + 1$   
 $-2 + 1$   
 $-1$

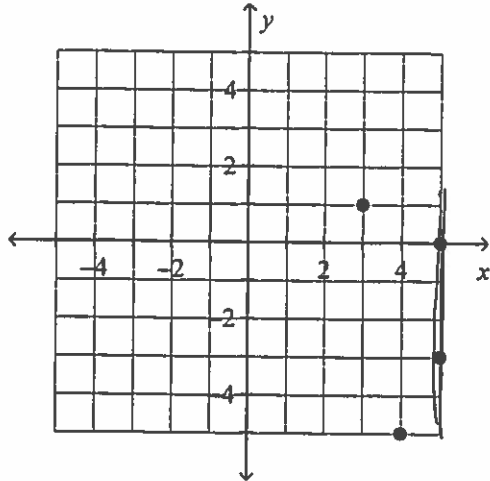
-1

8. Evaluate  $f(x) = -2x^2 + 3$  for  $x = -2$ .

$-2(-2)^2 + 3$   
 $-2(4) + 3 \rightarrow -8 + 3 = -5$

-5

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



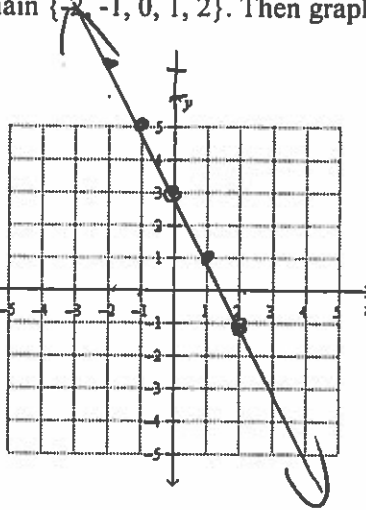
No - Fails VLT

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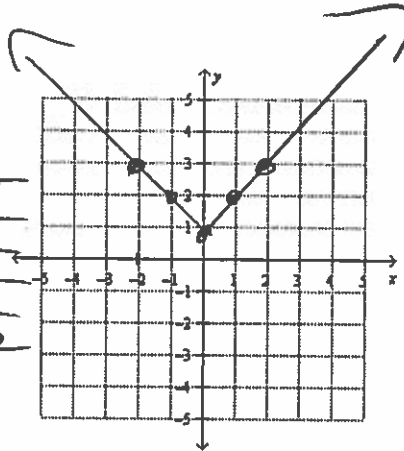
10. Complete the table. Use the domain  $\{-2, -1, 0, 1, 2\}$ . Then graph and label the function on the grid below.  
 $y = -2x + 3$

x	$-2x+3$	y
-2	$-2(-2)+3$	7
-1	$-2(-1)+3$	5
0	$-2(0)+3$	3
1	$-2(1)+3$	1
2	$-2(2)+3$	-1



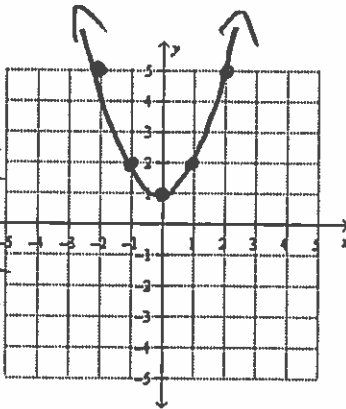
11. Complete the table. Use the domain  $\{-2, -1, 0, 1, 2\}$ . Then graph and label the function on the grid below.  
 $y = |x| + 1$

x	$ x +1$	y
-2	$ -2 +1$	3
-1	$ -1 +1$	2
0	$ 0 +1$	1
1	$ 1 +1$	2
2	$ 2 +1$	3



12. Complete the table. Use the domain  $\{-2, -1, 0, 1, 2\}$ . Then graph and label the function on the grid below.  
 $y = (x^2) + 1$

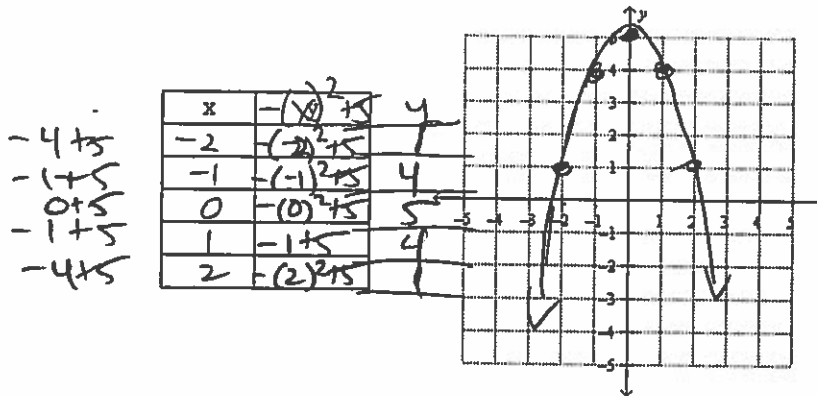
x	$(x)^2+1$	y
-2	$(-2)^2+1$	5
-1	$(-1)^2+1$	2
0	$(0)^2+1$	1
1	$(1)^2+1$	2
2	$(2)^2+1$	5



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13. Complete the table. Use the domain  $\{-2, -1, 0, 1, 2\}$ . Then graph and label the function on the grid below.  
 $y = -x^2 + 5$



14. Write a function rule for the table.

x	f(x)
3	-12
4	-16
5	-20
6	-24

$$f(x) = -4x$$

15. Write a function rule for the table.

x	f(x)
1	-2
2	-1
3	0
4	1

$$f(x) = x - 3$$

16. Write a function rule that gives the total cost  $c(p)$  of  $p$  pounds of candy if each pound costs \$.39.

$$c(p) = 0.39p$$

Essay

17. Make up a story of a complete trip and draw a descriptive graph of it. Make sure it includes several stops and shows a person traveling at different speeds. Describe the different areas of the graph in detail. Creativity is encouraged!

Student Answer