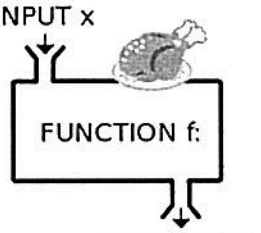
Name: _____ Date: _____

FUNCTIONS.



1. If $f(x) = -2x^2 + 3$ then $f(-3) =$

   (1) -15 (3) 39

   (2) 21 (4) -18

_____

2. Which of the following sets of coordinate pairs is *not* a relationship where y is a function of x?

   (1) $\{(-3,1),(0,5),(2,7),(5,1)\}$

   (2) $\{(-2,4),(-1,0),(1,7),(-2,-4)\}$

   (3) $\{(-3,10),(-2,5),(1,2),(2,5)\}$

   (4) $\{(4,16),(5,25),(7,49),(10,100)\}$

_____

3. Jenna is selling glasses of lemonade for \$1.50 per cup. She begins the day with \$4.50 in change. The amount of money, m, she has as a function of the number of cups she sells is $m = 1.50c + 4.50$. Which of the following would be an appropriate domain for this function?

   (1) $\{-3,-2,-1,0,1,2,3\}$

   (2) $\{1,1.5,2,2.5,3,3.5\}$

   (3) $\{0,1,2,3,4,5,6\}$

   (4) $\{4.50,6.00,7.50,9.00,10.50\}$

_____

4. For the piecewise defined function $f(x) = \begin{cases} 3x-1 & x<3 \\ \frac{1}{2}x+7 & x \geq 3 \end{cases}$, which of the following is the value of $f(6)$?

   (1) 7 (3) 17

   (2) 10 (4) 27

_____

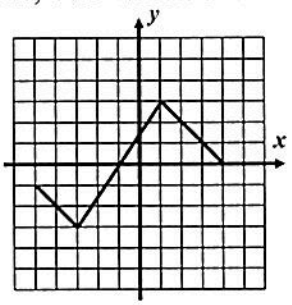
5. If $f(x) = x^2 - 2x - 11$, then which of the following values of x solves $f(x) = 4$?

   (1) $x = 0$ (3) $x = 3$

   (2) $x = -2$ (4) $x = 5$

_____

6. Given the graph of $h(x)$ shown below, over which of the following intervals is h increasing?



(1) $-1 < x < 4$

(2) $-3 < x < 1$

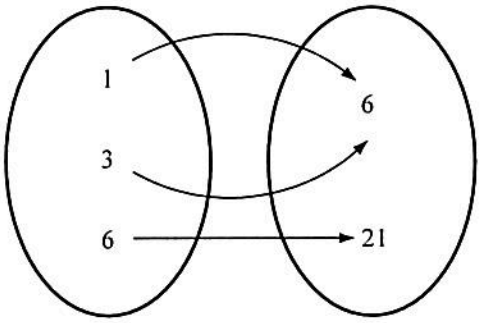
(3) $-3 < x < 3$

(4) $1 < x < 4$

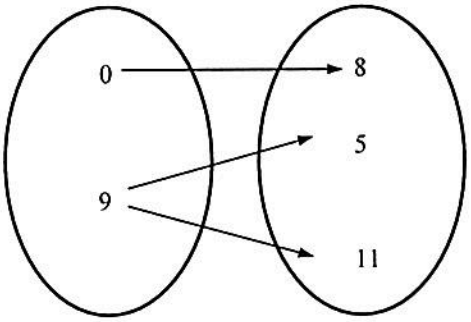
_____

Free Response Questions:

7. Do each of the below represent functions. Yes or no?

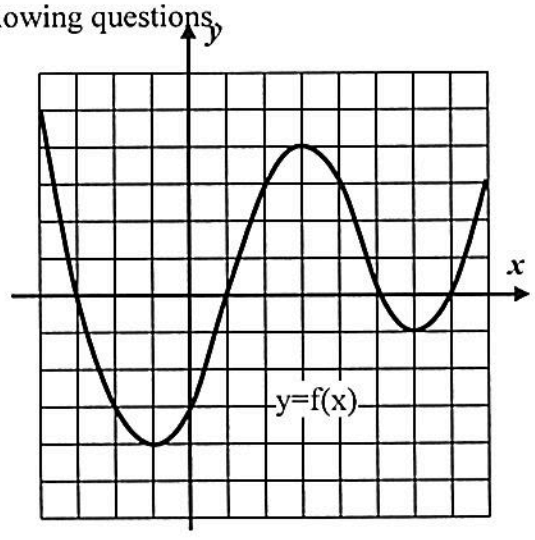


Case #1



Case #2

8. For the function $y = f(x)$ shown graphed below, answer the following questions.



(a) Find the value of $f(3) + f(6)$.

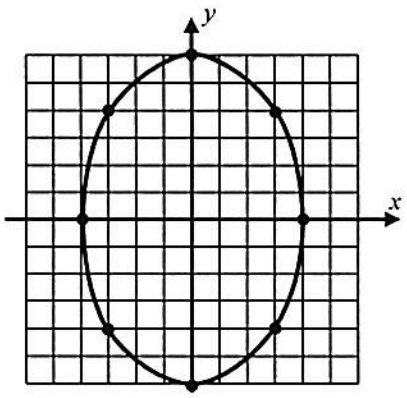
(b) Identify the three turning points.

(c) Identify the maximum and minimum.

(d) Give an interval over which $f(x)$ is *only* decreasing.

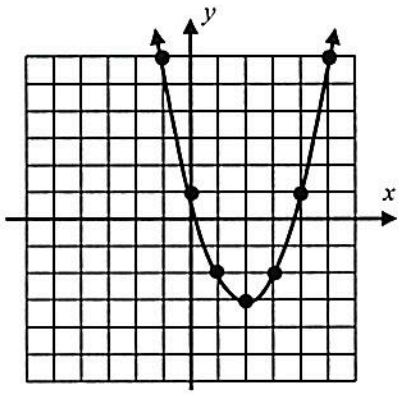
9. Circle if each of the following is a function:

Relationship A



Yes No

Relationship B



Yes No

10. The table below is partially filled out for the function $f(x) = x^2 - 3x - 4$.

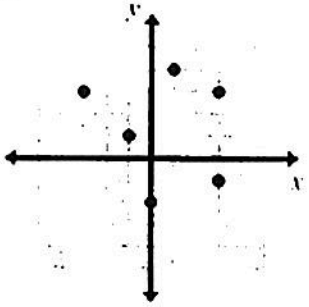
x	−3	−2	−1	0	1	2	3	4	5
$f(x)$	14			−4		−6			6

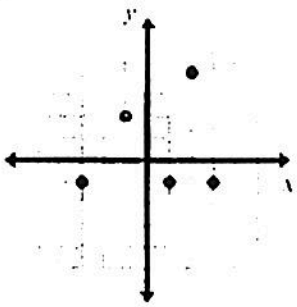
(a) Fill out the remaining portions of the table.

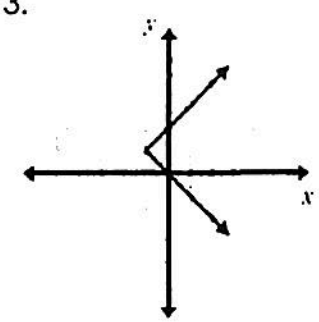
Function Notation and Evaluating Functions Practice Worksheet

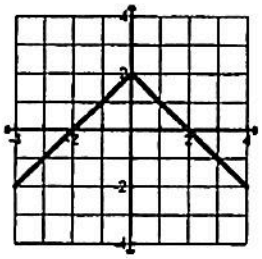
Name_____ Class Period_____

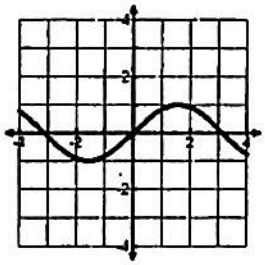
Decide whether the graph is a function

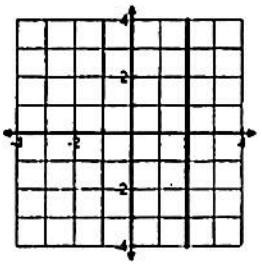
1. 

2. 

3. 

4. 

5. 

6. 

Decide whether the relation is a function.

7.

Input	Output
1	7
	-7
2	8
	-8

8.

Input	Output
3	2
5	4
7	6

9.

Input	Output
0	-6
2	-4
4	-2
6	0

Evaluate the function when $x = 3$, $x = 0$, and $x = -2$. (3 answers for each problem)

10. $f(x) = 2x - 5$

11. $h(x) = 6x + 2$

12. $g(x) = 2.4x$

Evaluate the function when $x = 3$, $x = 0$, and $x = -2$. (3 answers for each problem)

13. $f(x) = 0.5x + 12$

14. $h(x) = \frac{2}{3}x - 1$

15. $f(x) = \frac{3}{5}x + 2$

If $f(x) = 2x - 3$, $g(x) = \sqrt{x+5}$, and $h(x) = x^2 - 3x + 5$, find each of the following:

16. f(4) =

17. h(-3) =

18. g(7) =