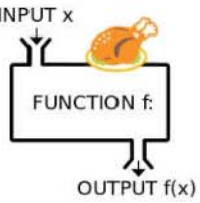
Name: _____ Date: _____

FUNCTIONS UNIT! REVIEW SHEET.



Part I Questions:

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

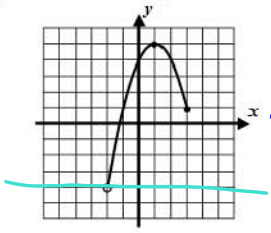
4. Which of the following represents the range of the function shown in the graph below?

(1) $(-4,5]$

(2) $[-4,5)$

(3) $[-2,3)$

(4) $(-2,3]$



Dom: $(-2,3]$

Ran: $(-4,5]$

5. Which of the following represents the average rate of change for the function $f(x) = x^2$ over the interval $1 \le x \le 3$?

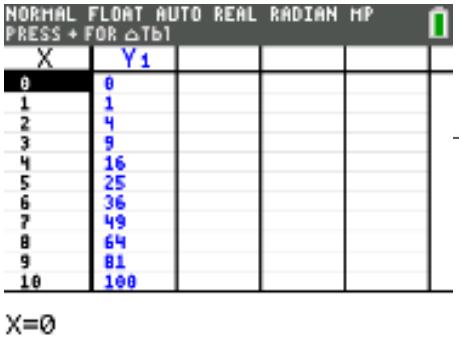
a b $\frac{9-1}{3-1}$

(1) 8 (3) 6

(2) 2 (4) 4

x	y
1	1
3	9

$\frac{\Delta y}{\Delta x} = \frac{9-1}{3-1} = \frac{8}{2} = 4$



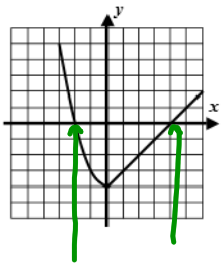
6. For the function $f(x)$ shown below, which of the following represents the interval over which $f(x) < 0$?

(1) $-2 < x < 4$

(2) $-2 \le x \le 4$

(3) $-4 < x < 0$

(4) $-4 \le x \le 0$



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

(1) 7 (3) 17

(2) 10 (4) 27

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8. 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) $x = 5$

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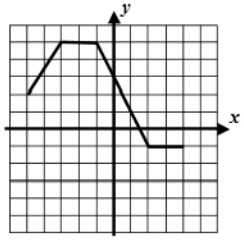
9. The function $f(x)$ is shown graphed below. The function g is defined by the formula $g(x) = 3f(x) - 2$ for all values of x in the domain of f. Which of the following is the value of $g(2)$?

(1) -5

(2) -1

(3) 3

(4) 4



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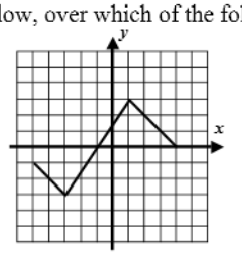
10. Given the graph of $h(x)$ shown below, over which of the following intervals is h increasing?

(1) $-1 < x < 4$

(2) $-3 < x < 1$

(3) $-3 < x < 3$

(4) $1 < x < 4$



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