

Name: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Class: \_\_\_\_\_

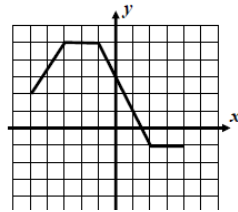
Algebra  
 Review  
 Final Review 2

1) 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)  $x = 5$

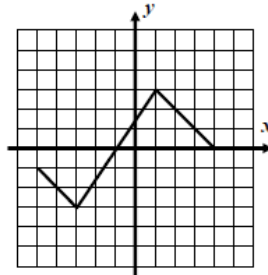
2) The function  $f(x)$  is shown graphed below. The function  $g$  is defined by the formula  $g(x) = 3f(x) - 2$  for all values of  $x$  in the domain of  $f$ . Which of the following is the value of  $g(2)$ ?

- (1) -5  
 (2) -1  
 (3) 3  
 (4) 4



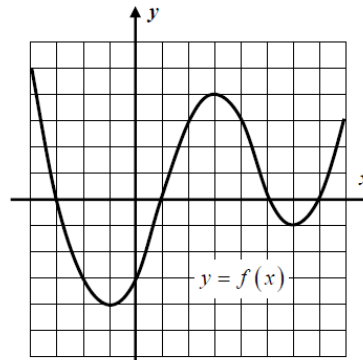
3) Given the graph of  $h(x)$  shown below, over which of the following intervals is  $h$  increasing?

- (1)  $-1 < x < 4$   
 (2)  $-3 < x < 1$   
 (3)  $-3 < x < 3$   
 (4)  $1 < x < 4$



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

- (a) Find the value of  $f(3) + f(6)$ .  
 (b) State all intervals over which  $f(x) < 0$ .

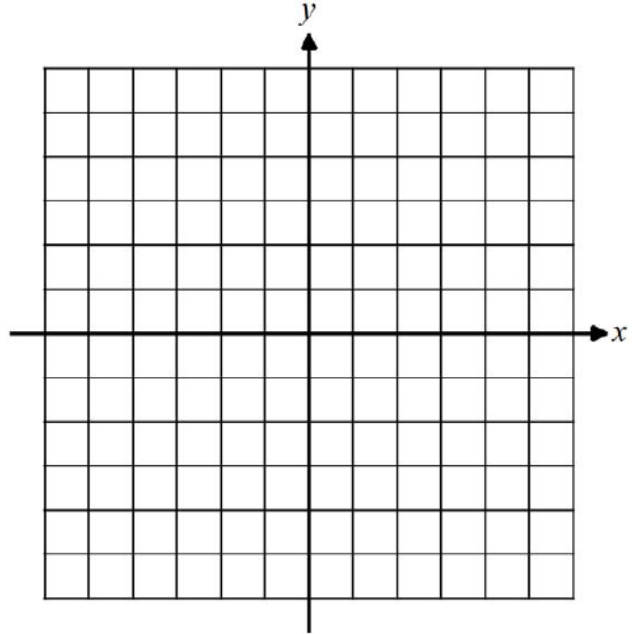


- (c) Solve the equation  $f(x) = 0$  for all value(s) of  $x$ . Circle the points on your graph that you use to find your solutions.  
 (d) Give an interval over which  $f(x)$  is *only* decreasing.

5)

Given the piecewise function  $f(x) = \begin{cases} 3x+11 & -5 \leq x \leq -2 \\ -\frac{1}{2}x+5 & -2 < x \leq 4 \end{cases}$ .

(a) Graph this function on the grid to the right.  
Show your table of values.



(b) State the range of this function.

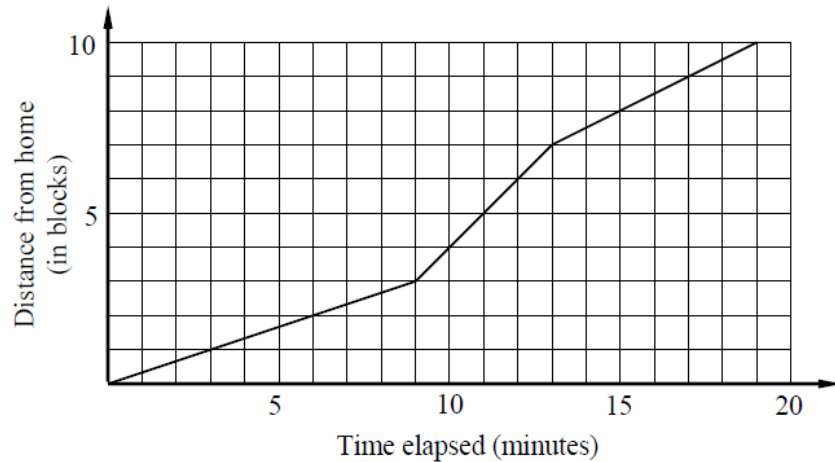
6)

Michael is walking from home to a subway stop that is 10 blocks away. Calculate Michael's average rate of change, in blocks per minute, for each of the following intervals:

0 to 9 minutes

9 to 13 minutes

13 to 19 minutes



During which interval is Michael moving the slowest?

7)

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.

(b) State the zeroes of the function.

(c) What is the maximum value of  $f$  on this interval?

8) Carly walks 30 feet in seven seconds. At this rate, how many minutes will it take for Carly to walk a mile if there are 5,280 feet in one mile?

(1) 17.3 minutes                      (3) 20.5 minutes

(2) 12.8 minutes                      (4) 27.8 minutes

9) Which of the following points lies on the graph of the line  $y = 5x - 2$ ?

(1) (0, 4)                              (3) (-1, 2)

(2) (2, 8)                              (4) (4, 10)

10) A cell phone plan charges a flat monthly fee of \$15.25 and an additional \$0.07 per hour spent talking on the phone. Which of the following functions gives the cost,  $c$ , of the cell phone plan as a function of the number of hours,  $h$ , spent talking?

(1)  $c = .07h + 15.25$                   (3)  $c = .07(h + 15.25)$

(2)  $c = 15.25h + .07$                   (4)  $c = 15.25(h + .07)$

11) Which point is a solution to the system of equations shown below?

(1) (3, 7)                              (3) (1, 5)                               $y = 4x - 5$

(2) (0, 1)                              (4) (2, 3)                               $y = -2x + 7$

