Pre-AP Precalculus
Assignment 1 – Functions and Average Rate of Change

Name: _____   Date:_____

x	-5	-2	-1	0	2	5	6	9	13	14	18	20
$f(x)$	0	-3	-5	-7	-2	0	2	5	6	5	2	0

Evaluate the following using the function above.

1] $f(2)$ 　　　　　　　2] $f(13)$ 　　　　　　　3] $f(?) = -2$ 　　　　　　　4] $f(?) = 0$

5] $f(5)$ 　　　　　　　6] $f(?) = -7$ 　　　　　　　7] $f(0)$ 　　　　　　　8] $f(?) = 5$

9] $f(20)$

Find the average rate of change for #'s 10-14.

10] $between\ x = 5\ and\ x = 14$ 　　　　　　　11] $between\ x = -1\ and\ x = 9$

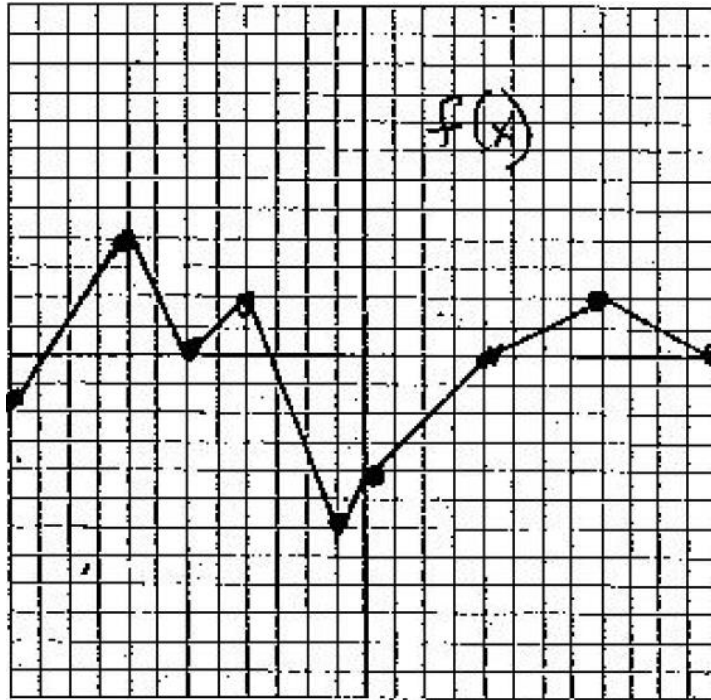12] $between\ x = -5\ and\ x = 20$ 　　　　　　　13] @ $x = 11$

14] @ $x = 1$

15] Where is the function increasing? (over what interval(s)?)

16] Over what interval is the function decreasing?

17] Graph the given function.

Evaluate the following using the function above.

18] $f(-6)$ 19] $f(?) = 4$ 20] $f(4)$ 21] $f(-4)$

22] $f(?) = -4$

Find the average rate of change for #'s 23-27.

23] $-8 \leq x \leq 4$

24] $[-4,0]$

25] $-6 \leq x \leq 12$

26] @ $x = 2$

27] @ $x = -2$

28] Where is the function increasing?

29] Where is the function decreasing?

30] Create a table of the function above.

$$f(x) = x^2 - 16$$

Using the function above, evaluate the following.

31] $f(1)$ 32] $f(-2)$ 33] $f(-6)$ 34] $f(?) = 0$

35] $f(?) = 9$ 36] $f(10)$

37] Find the average rate of change over the interval $1 \le x \le 4$.

38] Find the average rate of change over the interval $[-2,3]$.

$$g(x) = -x^2 - 8x$$

Using the function above, evaluate the following.

39] $g(2)$ 40] $g(-1)$ 41] $g(-2)$ 42] $g(?) = 15$

43] $g(?) = 12$ 44] $g(?) = 7$ 45] $g(?) = 16$

46] Find the average rate of change over the interval $-2 \le x \le 1$.

47] Find the average rate of change over the interval $-1 \le x \le 3$.

48] Graph $g(x)$ and find the intervals for which it increases and decreases.