Functions and Function Notation

NAME: MRS.

DATE: PERIOD:

1. Evaluate the following expressions given the functions below:

$g(x) = -3x + 1$ $\quad f(x) = x^2 + 7$ $\quad h(x) = \frac{12}{x}$ $\quad j(x) = 2x + 9$

a. $g(10) = -12$ (−3(10)+1)

b. $f(3) = (3)^2 + 7 = 9 + 7 = 16$

c. $h(-2) = \frac{12}{-2} = -6$

d. $j(7) = 2(7) + 9 = 14 + 9 = 23$

e. $h(a) = \frac{12}{a}$

f. $g(b+c) = -3(b+c) + 1 = -3b - 3c + 1$

h. Find x if $g(x) = 16$: $16 = -3x + 1$, $-1 \quad -1$, $15 = -3x$, $x = -5$

i. Find x if $h(x) = -2$: $-2 = \frac{12}{x}$, $x = -6$

j. Find x if $f(x) = 23$: $23 = x^2 + 7$, $-7 \quad -7$, $16 = x^2$, $x = \sqrt{16}$, $x = 4$

2. Given $f(x) = 3 - 4x$. Fill in the table and then sketch a graph.

x	$f(x)$
-2	11
-1	7
0	3
1	-1
3	-9

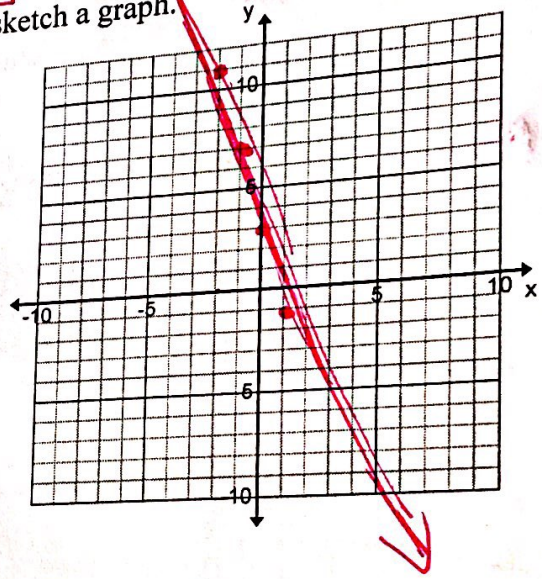
$3 - 4(-2) = 3 + 8 = 11$

$3 - 4(-1) = 3 + 4 = 7$

$3 - 4(0) = 3$

$3 - 4(1) = -1$

$-9 = 3 - 4x$, $-3 \quad -3$, $\frac{-12}{-4} = \frac{-4x}{-4}$, $x = 3$



3. Translate the following statements into coordinate points, then plot them!

a. $f(-1) = 1$

b. $f(2) = 7$

c. $f(1) = -1$

d. $f(3) = 0$