NAME: __Key__
EVALUATING FUNCTIONS WORKSHEET

1) Let g(x) = – 5 x + 2. Evaluate each of the following:

a) g(– 1) = __7__ $-5(-1)+2$

b) g(– 2) = __12__

c) g(0) = __2__

d) g(5) = __-23__

2) Let f(x) = 2 x + 2. Evaluate each of the following:

a) f(– 3) = __-4__ $2(-3)+2$

b) f(6) = __14__

c) f(– 1) = __0__

d) f(4) = __10__

3) Let g(x) = x² + 4 x – 1. Evaluate each of the following:

a) g(– 4) = __-1__ $(-4)^2+4(-4)-1$

b) g(8) = __95__

c) g(– 1) = __-4__

d) g(1) = __4__

4) Let f(x) = 3x² – 5 x. Evaluate each of the following:

a) f(2) = __2__ $3(2)^2-5(2)$

b) f(– 8) = __232__

c) f(7) = __112__

d) f(– 1) = __8__

5) Suppose f(x) = 4 x – 2. Determine x such that:

where y =

a) f(x) = 18 __5__ $4x-2=18$
$4x=20$
$x=5$

b) f(x) = 0 __1/2__

c) f(x) = – 2 __0__ $4x-2=0$
$4x=2$

d) f(x) = 12 __7/2__

6) Suppose n(x) = 7 x + 4. Determine x such that:

a) n(x) = 39 __5__

b) n(x) = 0 __-4/7__ $0=7x+4$ $13=7x+4$
$-4=7x$ $9=7x$

c) n(x) = 4 __0__ $4=7x+4$
$0=7x$

d) n(x) = 13 __9/7__

7) Suppose g(x) = – 5 x + 6. Determine x such that:

a) g(x) = 21 __-3__

b) g(x) = 0 __6/5__ $0=-5x+6$
$-6=-5x$

c) g(x) = – 6 __12/5__ $-6=-5x+6$
$-12=-5x$

$-5x+6=14$
$-5x=8$ d) g(x) = 14 __-8/5__

8) Suppose g(x) = – 3 x + 8. Determine x such that:

a) g(x) = 14 __-2__ $-3x=-8$

b) g(x) = 0 __8/3__

c) g(x) = – 14 __22/3__ $-14=-3x+8$
$-22=-3x$

d) g(x) = 15 __-7/3__ $15=-3x+8$

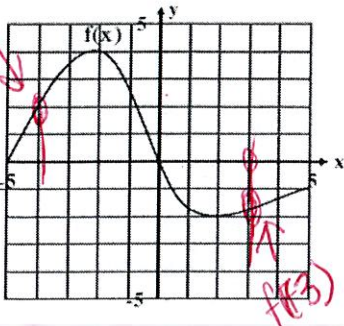**9)** Evaluate the following expressions given the functions below:

g(x) = – 3 x + 1   f(x) = x² + 7 $h(x) = \dfrac{12}{x}$

j(x) = 2 x + 9

a) g(10) = __-29__   b) f(3) = __16__

c) h(– 2) = __-6__   d) j(7) = __23__

e) Find x if g(x) = 16. __-5__ $16=-3x+1$
$15=-3x$

f) Find x if h(x) = – 2. __-6__ $-2=12/x$
$-2x=12$

g) Find x if f(x) = 23. __4 & -4__ $23=x^2+7$ $x^2=16$

10) Translate the following statements into coordinate points:

a) f(-1) = 1 __(-1, 1)__

b) h(2) = 7 __(2, 7)__

c) g(1) = - 1 __(1, -1)__

d) k(3) = 9 __(3, 9)__

11) Given this graph of the function f(x):
Find:

f(-4)

a.) f(-4) = **2**

b.) f(0) = **0**

c.) f(3) = **-1.8**

d.) f(-5) = **0**

e.) x when f(x) = 2
-1

f.) x when f(x) = 0
-5, 0, 0

f(3)

12) a.) If f(x) = 7 x – 3, then find f(0). **-3**

b.) If f(t) = | 5 t |, then find f(2). **10**

c.) If g(x) = x² + 8 x – 6 , then find g(1).
3

d.) If f(b) = 3 b , then find f(3).
9

13) Denise decides to study abroad in France. She has to exchange her dollars for Euros. The following function describes the exchange rate between dollars and Euros:

f(d) = .75 d   .75(200)

Find f(200). **150**

14) The profit from selling s number of t-shirts is described by the following function:

p(s) = 8 s – 500

Find p(70) **60**

8(70) - 500

15) The value of a car is given by the following function:

v(t) = 20,000(.90)t

Find v(1) **18,000**

16) Daniel's income for the fall semester is described by the following function:

f(h) = 1,000 + 9 h

Find f(320) **3,880**

17) Felix's total credit card balance is described by the following function:

c(p) = p(1.30)   (2500)(1.30)

Find p(2500) **3,250**

18) The study time per credit hour is described by the following function:

s(c) = 3 c   3(15)

Find s(15) **45**

19) The total amount of gas money is determined by the following function:

$$c(g) = \frac{600g}{30}$$

Find c($3.00) _____

$$\frac{600(3)}{30} = \frac{1800}{30}$$

20) The number of Facebook friends you make d days after arriving on campus is described by the following function:

f(d) = 2 d

Find f(7) **14**