Name: _____

Date:

Topic/Objective: SWBAT evaluate functions

Homework: yes

A function can be thought of as a __machine__ that assigns __one output__ to __one input__.

F(x) means "f of x"

Name of the Function

Tells what number to plug into the function

$$F(x) = \underbrace{3x+4}$$

The Function

Examples: Find f (2) and f (-1) using the function f(x) = 3x+4.

$f(2) = 3x+4$	$f(-1) = 3x+4$
$= 3(2)+4$	$= 3(-1)+4$
$= 6+4$	$= -3+4$
$= \boxed{10}$	$= \boxed{1}$

Examples:

Let $f(x) = x^2 + 3$ and $g(x) = x + 1$

Find the following values:

$f(3) = x^2 + 3$ $\quad = 3^2 + 3$ $\quad = 9 + 3 = \boxed{12}$	$g(3) = x + 1$ $g(3) = 3 + 1$ $\quad = \boxed{4}$
$f(-2) = x^2 + 3$ $\quad -2^2 + 3$ $\quad 4 + 3 = \boxed{7}$	$g(0) = x + 1$ $\quad 0 + 1$ $\quad \boxed{1}$

Evaluate the function $f(x) = 2x + 6$ for $f(5)$

To evaluate let x = ___5___

$$2(5) + 6$$
$$10 + 6$$
$$\boxed{16}$$

What is the value of $a(-3)$ *for* $a(x) = 2x - 6x$

$a(-3) = 2x - 6x$
$\quad = 2(-3) - 6(-3)$
$\quad = -6 + 18$
$\quad = \boxed{12}$

$a(-3) = -4x$
$\quad = -4(-3)$
$\quad = 12$

What is the value of $f(5)$ for the function $x^2 - 3x$

$$f(5) = x^2 - 3x$$
$$5^2 - 3(5)$$
$$25 - 15$$
$$10$$

$f(x) = 2x - 5$ evaluate at $f(x+1)$

$$f(x+1) = 2x - 5$$
$$= 2(x+1) - 5$$
$$= 2x + 2 - 5$$
$$= 2x - 3$$

$f(x) = -3x + 1$ evaluate at $f(x+2)$

$$f(x+2) = -3x + 1$$
$$= -3(x+2) + 1$$
$$= -3x + {}^-6 + 1$$
$$= \boxed{-3x + {}^-5}$$

$$h(x) = 4x + 3 \; ; \; \text{find } h(x-1)$$
$$h(x-1) = 4x + 3$$
$$4(x-1) + 3$$
$$4x - 4 + 3$$
$$4x - 1$$