A+

Function Notation

When a function can be written as an equation, the symbol f(x) replaces y and is read as "the value of f at x" or simply "f of x."

This does NOT mean f times x.

Replacing y with f(x) is called writing a function in **function notation**.

REMEMBER***

f(-3) means -3 is your input and you plug it in for x

f(x) = -3 means that your whole function is = to -3 and you plug into the y.

Examples:

If f(x) = 2x – 3, find the following:

a. f(-2)

b. f(7)

c. f(-4)

If k(x) = -7x + 1, find the following:

d. k(0)

e. k(-1)

f. k(5)

Sometimes, there will be multiple x's in an equation. When this occurs, simply replace both values of x.

If $h(x) = x^2 - 3x + 5$, find the following:

a. h(-3)

b. h(5)

If $p(x) = x^2 + 5x - 3$, find the following:

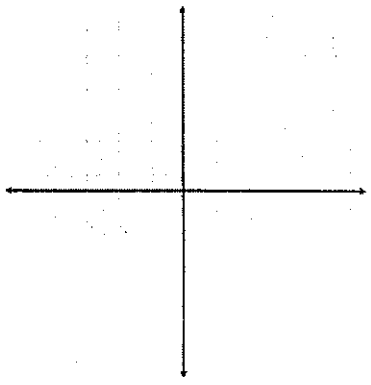
c. p(-2)

d. p(1)

If f(x) = 5x - 3, fill out the following table of values:

x	-2	-1	0	1	2	3
f(x)						

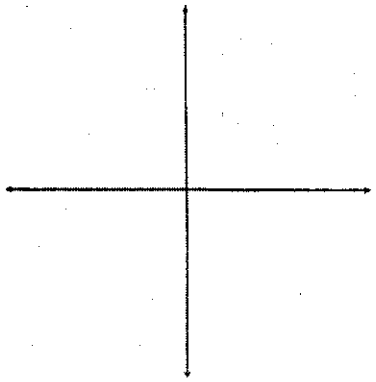
What type of function is this?



If $f(x) = 2^x + 5$, fill out the following table of values:

x	-2	-1	0	1	2	3
f(x)						

What type of function is this?



Using the table of values, find the following:

x	0	9	8	-3	2	-5	20
f(x)	-1	4	4	2	9	8	0

a. f(-3)

b. f(20)

c. f(8)

d. f(-1)

e. If f(x) = 9, what is x?

f. If f(x) = 4, what is x?

g. If f(x) = 0, what is x?

h. If f(x) = -5, what is x?

Sometimes, instead of finding the value of the function at a given x-value, you will be given the value of the function and asked to find the value of x. In these cases, replace the function notation and solve rather than the x. (Use the functions defined in the above examples.)

a. Let $f(x) = 2x - 3$. If $f(x) = 15$, find x.

b. Let $g(x) = 3x + 2$. If $g(x) = 11$, find x.

c. Let $w(x) = 3x - 7$. If $w(x) = 14$, find x.

d. Let $h(x) = -2x - 5$. If $h(x) = -25$, find x.