

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**.

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. $p(-2)$

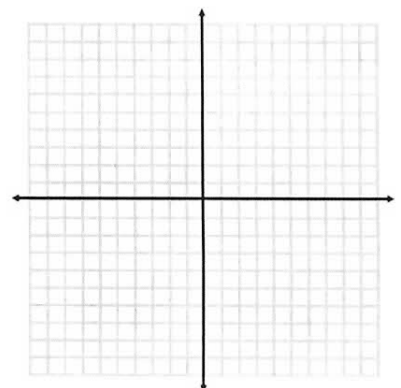
d. $p(1)$

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?

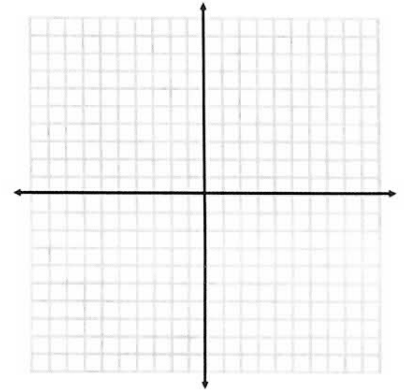
REMEMBER***
 $f(-3)$ means -3 is your input and you plug it in for x
 $f(x) = -3$ means that your whole function is = to -3 and you plug into the y .



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 .