Function notation.

- f(x), g(x), h(x)
- you can use any letter except the one that is representing your variable (x)
- f(x)=5x+3 is the same as y=5x+3
  → slope y-int
- f(#) means that you are going to substitute the given # into each x in your function

Given f(x)=2x-3

$f(x) \rightarrow f(3)$

Evaluate f(3) this is saying plug 3 in for x

$f(3) = 2(3) - 3 = 6 - 3 = 3$

Evaluate f(j)

$f(j) = 2j - 3$

Now you try.

Given $g(x) = -2x^2 + 5$

Evaluate g(3)

PEMDAS

$-2(3)^2 + 5$

$-2(9) + 5$

$-18 + 5$

-13

Given $f(x) = -x^3 - 2x^2 + x - 4$

Evaluate f(-1)

$-(-1)^3 - 2(-1)^2 + (-1) - 4$

$-(-1) - 2(1) - 1 - 4 = 1 - 2 - 1 - 4 = -6$

Evaluating with an expression.

Given $f(x)=2x-3$

Evaulate for $f(5x)$

This may seem harder on the surface, but you still just replace the x in the f function with "5x"

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

$$= 10x - 3$$

Function Notation - Algebra Refresher

Given $f(x)=3x^2-4$

Evaluate $f(2x+1)$

$3(2x+1)^2-4$

$3(4x^2+4x+1)-4$

$12x^2+12x+3-4 = 12x^2+12x-1$

$(2x+1)(2x+1)$

$4x^2+2x+2x+1$

$4x^2+4x+1$