4.7: Function Notation

***Goals:** - Identify function notation
- Find the value of a function for a given value of x
- Find the value of x for a given function value

Function Notation:

$f(x) = y$; x is still the input. Now instead of calling y the output, it is being called $f(x)$

So an ordered pair that use to be written: (,) could now be written:
(,)

While f is typically the most common function name, other common functions are:

***f*(*x*) DOES NOT** mean to _____.

- ***f*(7)** would just mean to _____ 7 in for x into the given function.

Finding and output given an input.

Ex: What is the value of the function $\boldsymbol{f(x) = 3x - 15}$ when $x = -3$?
- What is this problem really asking you to do? Think in terms of input and output.

Ex: Evaluate $h(x) = -7x$ when $x = 7$

Ex: What is the value of the function $f(x) = 2x + 12$ when $x = -8$?

Finding an input given an output.

Ex: For the function $f(x) = 2x - 10$, find the value of x so that $f(x) = 6$.

- **What is this problem asking you to do?**

Ex: For the function $f(x) = -2x + 4$, find the value of x so that $f(x) = 16$.