Function Notation

If y is a function of x, **function notation** f(x) is used to represent y.
In Table #2, $y = 3x + 1$. Using function notation it would be written: $f(x) = 3x + 1$

Write $y = 3x - 2$ in function notation:

Definition of a Linear Function

A function of the form f(x) = *m*x + b is called a **linear function** if *m* ≠ 0 and is called a constant function if *m* = 0 where *m* and b are real numbers, and *m* is the slope and the point (0,b) is the y-intercept. [Meaning: the function, when graphed, results in a straight line.

Working with functional notation

Consider the following problem. Given the function $f(x) = 3x + 1$, find $f(4)$. This is another way to ask you to find the value of y, using 4 as the x.

In the past, you have been asked to substitute the value of 4 for x in the equation. In this example, $f(4) = 13$ since 3(4) +1 = 13.

Let $f(x) = 3x - 2$ and $g(x) = x^2 - x$ What is $f(4)$?

What is $g(-3)$? What is $f(0) + g(4)$?

CAUTION: Sometimes a problem is reversed. Given the function $f(x) = 3x + 1$, find x when $f(x) = 10$. This is asking: what value of x is used to get a result of 10? If 3 is used for x, the result is 10. For this type of problem, set $3x + 1 = 10$ and solve for x.

Given $f(x) = 3x - 2$, find x when $f(x) = 13$