



**Functions review**

Functions are simply relationships between two variables, where the **dependent** variable is said to be a function of the **independent** variable. For example, the following equation:

$$f(x) = 3x + 5$$

would be read as “ f of x equals 3x plus 5 ”, and indicates that the variable f is dependent on the variable x.

Note that the statement “ f(x) “ does not imply that f and x are being multiplied-- rather, it merely indicates that x is an independent variable, on which f depends.

This notation makes it easy to specify values of x, at which the function can be evaluated: simply replace the independent variable with a value, on both sides of the equation. So, in the example above,

$$f(2) = 3(2) + 5 = 11$$

PRACTICE:

$$\text{Let } r(t) = t^2 + 3t - 4$$

What is the dependent variable?

What is the independent variable?

Find values for each of the following:  $r(-1) =$

$$r(0) =$$

$$r(3) =$$

Define a function to fit the data in the table below:

$f(x) =$  (hint: this is the general model to fit the pattern)

$$f(2) =$$

$$f(-1) =$$

$$f(100) =$$