

# Math 1030 #13a

## Functions: Building Blocks of Mathematical Modeling

### Functions

Mathematical models are based on relationships between quantities that can change.

Function - A mathematical tool that describes relationships between quantities.

Variables - The quantities related by a function

dependent variable - output variable  
independent variable - input variable

A function describes how a dependent variable changes with respect to one or more independent variables.

### Notation

$y = f(x)$  read "y is  $f$  of  $x$  "

$f$  is the name of the function

$x$  is the independent variable

$y$  is the dependent variable



**EX 2:**

Your health is a function of many variables. List a few.