Functions

**Definition:** A *function* is a relation between variables for which a *unique* value of the *output* variable can be determined from each value of the *input* variable.

**Notation:**

\[ y = f(x), \text{ where } x \text{ is the } \textit{input}, \text{ or independent}, \text{ variable and } y \text{ is the } \textit{output}, \text{ or dependent}, \text{ variable.} \]

**Vertical Line Test:** If there is a vertical line which intersects a graph in more than one point, then the graph does not represent a function.