Introduction to functions

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## Definition:

A function assigns to each element in some set a unique element in a set

* The set is called the **domain** of or
* For in , is called the image of under
* The set of all images is a subset of called the image of , or

## Some examples

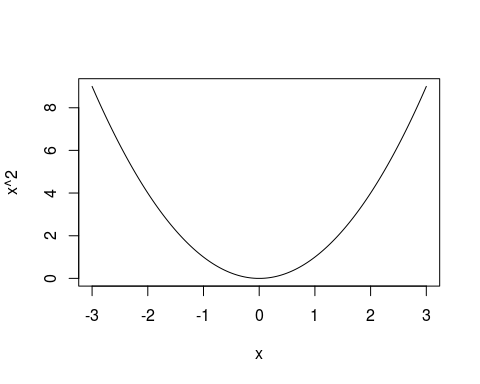
Are you familiar with them?

* x is a variable, or input
* is the output, which has to be uniquely determined!
* You need to know what values of x are allowed

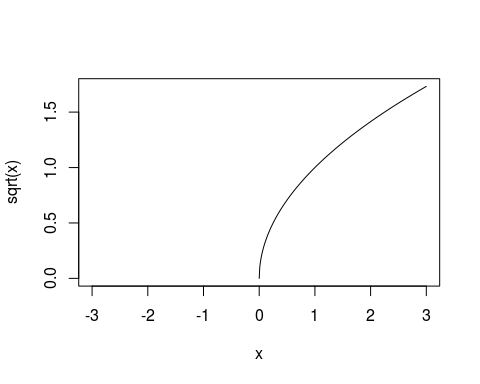
## Graphs

The graphical representation of the previous functions are:

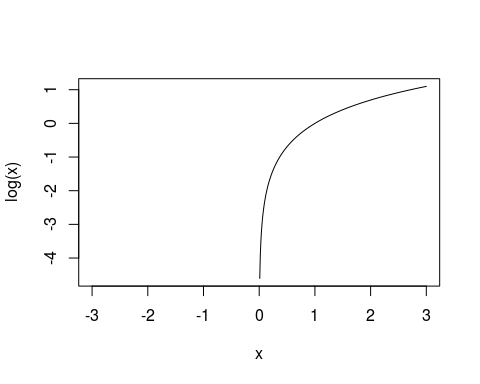
## Square function



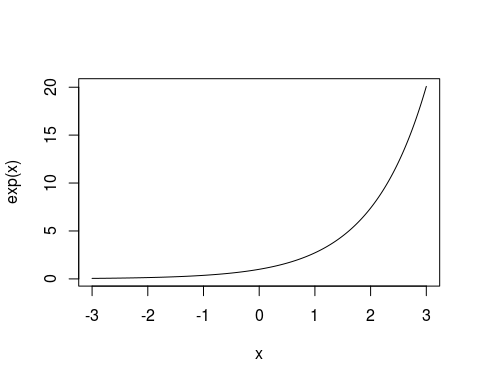
## Square root function



## Logarithmic function



## Exponential function



## Sine function

