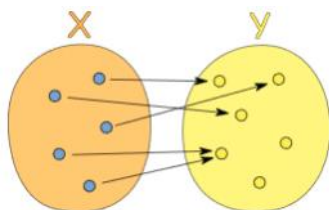


Function

September 11, 2017 20:29

A function relates **each element** of a set with **exactly one** element of another set (possibly the same set).

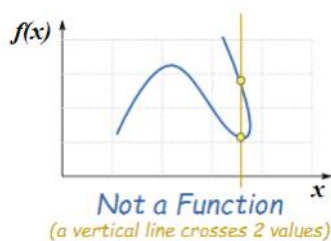


The Two Important Things!

1. "...each element..." means that every element in X is related to some element in Y .
2. "...exactly one..." means that a function is *single valued*. It will not give back 2 or more results for the same input.

Vertical Line Test

On a graph, the idea of *single valued* means that no vertical line ever crosses more than one value. If it crosses **more than once** it is still a valid curve, but is **not a function**.



Domain, Codomain and Range

In our examples above

- the set " X " is called the **Domain**,
- the set " Y " is called the **Codomain**, and
- the set of elements that get pointed to in Y (the actual values produced by the function) is called the **Range**.