# ****Function Notation****

The notation   defines a function named . This is read as “is a function of ” or of .”

The letter represents the input value, or independent variable. The letter  or  represents the output value, or dependent variable.

For the function

is the name of the function

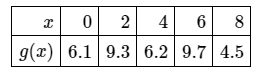
is the domain value (or independent variable)

is the range value (or dependent variable) corresponding to the value

Example: Evaluate the function for the given values.

Given , find

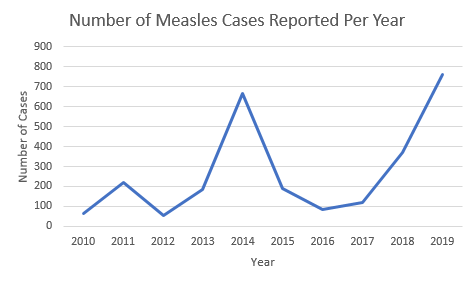


Example: Use the table of values for to evaluate and . Then find all values of so that .

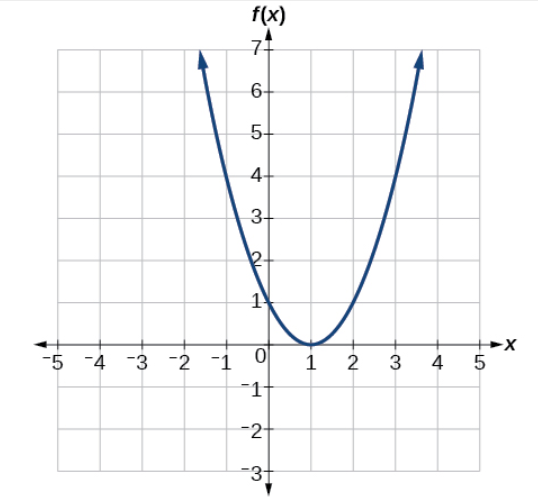
Example: The number of unread emails in Anthony’s account is 110. This number grows by 25 unread emails a day. The function represents the relation between the number of emails, , and the time,, measured in days.

* 1. Find and explain what it means.
  2. If Anthony’s account has 285 unread emails, how many days did he not read his emails?

Example: Below is a graph from the CDC showing the number of measles outbreaks in the US since 2010. Find and interpret .



[Source](https://www.cdc.gov/measles/cases-outbreaks.html)

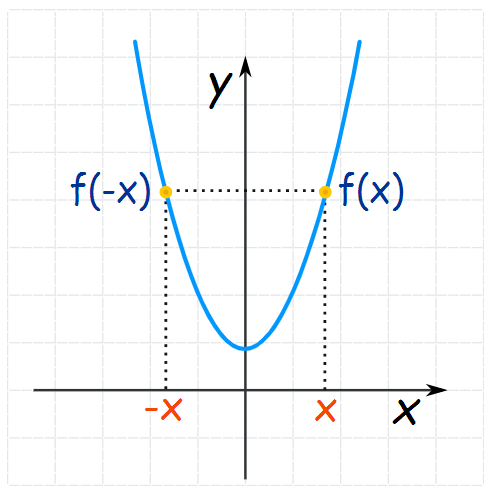
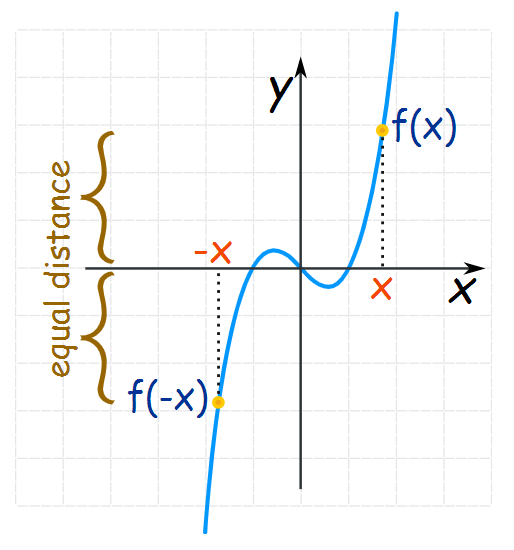
 Example: Using the graph,

1. Evaluate .
2. Solve .

# Even and Odd Functions

Even and odd functions are special types of functions.

An even function is a function that is symmetrical about the -axis (reflects across the y-axis). An odd function is symmetrical about the origin (if you rotate if about the origin, it will look like the original graph after making a 180 degree rotation). Note: not all functions are even or odd. There are some that can be neither.

Even Function Odd Function

## How to Determine Algebraically if a Function is Even, Odd, or Neither

To determine whether a function is even or odd (or neither) algebraically, we take the function and plug in and then simplify. The result helps you determine which type of function it is.

If , then

If , then

In all other cases, the function is neither even nor odd.

Examples: For each of the following, determine algebraically whether the function is even, odd, or neither.