# [CAL] Calculus Learnings of 2020-02-03~09

### What are inverse functions?

Functions are relationships between variables. A function is a relationship of one variable in terms of another variable. An inverse function is then the reverse of that such that the relationship is now in terms of the other variable.

Given this function f(x) = y:

input = x

relationship = function f()

output = y

Then the inverse function f^-1(y) = x is:

input = y

relationship = function f^-1

output = x

### What is ln? How should I think about it?

ln means logarithm. It should be thought of as the exponent.

Say x^2. The exponent is 2. Then, the logarithm of x^2 is 2.

expression = x^2

exponent = 2

logarithm of x^2 = 2

ln(x^2) = 2

### What is centered difference?

A more "instant" slope by using x\_change.

f(x + x\_change) – f(x- x\_change) / 2\*x\_change

Apparently this is more accurate.