Calculus Overview

Interpretation/ Application :

Always slope, but also velocity and acceleration Max-Min/ Analysis of Motion

Always area under curve; also volume and length of curves

Core :

$$\lim_{\Delta x \to 0} \frac{\Delta y}{\Delta x} = \text{slope}$$

Fund TH of Calculus
$$\int_a^b f(x)\ dx = F(b) - F(a)$$
where F is AD of f

$\int_a^b f(x)\ dx$ huge sum of small terms

Computation :

For $f(x) = kx^s$
$f'(x) = ksx^{s-1}$

This has a theoretical as well as a computational aspect

Power series methods

Provides ADs for such functions