welcome to calculus

derivative

integral

rate of change

differential calculus

differentiation

notation

welcome to calculus

- calculus allows us to deal with continuity in a consistent and productive way
- new operators different from linear algebra: the derivative and the integral
- the derivative is the instantaneous rate of change of a function
- the study of derivatives (or infinitely small changes) constitutes differential calculus
- differentiation is the process of taking a derivative

a_1

notation

- with one variable:

"f prime x". $f'(x)$

- with multiple variables:

"the derivative of f of x with respect to x" $\frac{df(x)}{dx}$ or $\frac{\partial f(x,y)}{\partial x}$

rates of change