

$$\lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h} = A$$

Newton :

$$\dot{x} \quad \ddot{x} \quad \dddot{x}$$

Lagrange :

$$f'(x), f''(x), f'''(x)$$

Leibniz :

$$\frac{df}{dx}$$

$$\frac{d^2 f}{dx^2}$$

$$\frac{d}{dx} f(x)$$

$$\lim_{h \rightarrow 0} \frac{f(a+h) - f(a)}{h} = A$$

$$\frac{d}{dx} x^3 = 3x^2$$

$$f(a+h) - f(a) = Ah + \rho(h)h$$

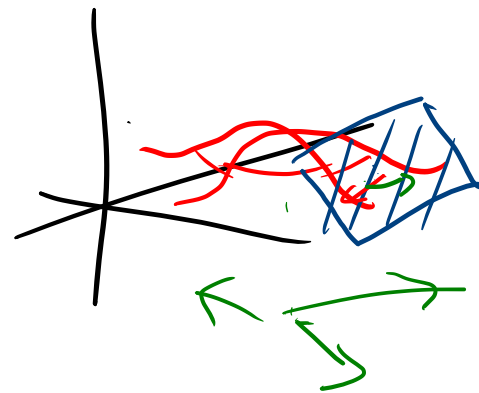
$$\rho(h) \rightarrow 0$$

$$h \rightarrow 0$$

Differentierbarkeit

(Fréchet derivata)

$$\text{så } f'(x) = Ax$$



i flera dim: A är en matris!

vektorn som vi får ut kallas gradient $\nabla \left(\frac{\partial}{\partial x}, \frac{\partial}{\partial y}, \dots \right)$