

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

Newton : \dot{x} \ddot{x} $\ddot{\dot{x}}$

Lagrange : $f'(x)$, $f''(x)$, $f'''(x)$

Leibniz : $\frac{df}{dx}$ $\frac{d^2 f}{dx^2}$ - -

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

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

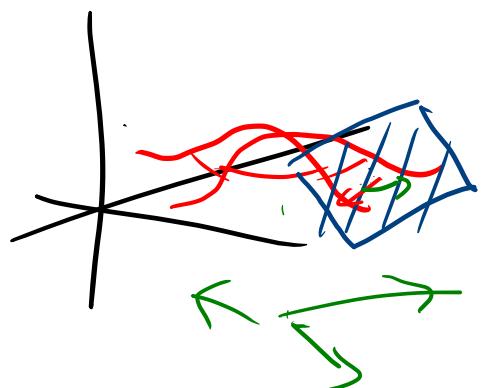
$$\frac{d}{dx} x^3 = 3x^2$$

$$\underline{f(a+h) + f(a)} = Ah + \rho(h)h \quad \rho(h) \rightarrow 0$$

Differentierbarhet

(Fréchet derivata)

$$\text{sätt } f'(x) = Ax$$



i flera dim: A är en matris!

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