

$$F_w \cong \int_{c_1}^{c_2} h(w, t) dt$$

$$= \int_{c_1}^{c_2} \lim_{h \rightarrow 0} \frac{h(w+h, t) - h(w, t)}{h} dt$$

$$= \int_{c_1}^{c_2} h_w(w, t) dt$$

$$\text{Eg: } \frac{d}{dx} \int_x^{x^2} \sin(x^3 - t) dt$$

$$= -\sin(x^3 - x) + \sin(x^3 - x^2) \cdot \frac{dx^2}{dx}$$

$$+ \int_x^{x^2} \cos(x^3 - t) \cdot 3x^2 dt$$