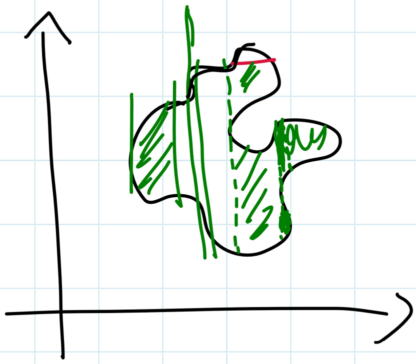
$$\underbrace{\int_c F_1(x,y)\cdot dx + F_2(x,y)\,dy}$$

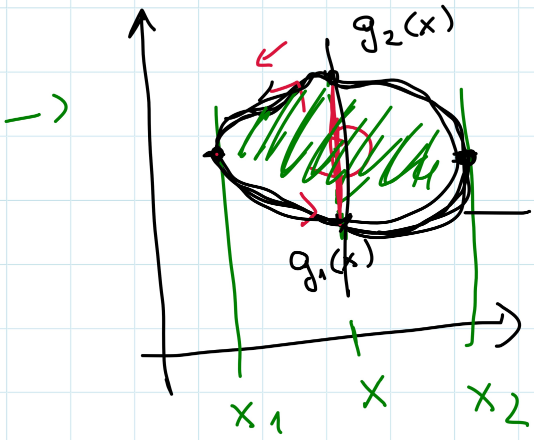
$$\int_{\mathbf{c}} \mathbf{F}\,\mathrm{d}\mathbf{X} = \int_{\mathrm{Int}\,\mathbf{c}} \left(\frac{\partial F_2}{\partial x} - \frac{\partial F_1}{\partial y}\right) \mathrm{d}x\mathrm{d}y.$$

$\boxed{F_2 = 0}$

LS PS

$F_1 : \mathbb{R}^2 \to \mathbb{R}$





$c_1(x) = (x, g_1(x))$

$c_1' = (1, g_1')$

$$LS = \int_c F_1(x,y)\,dx = \int_{x_1}^{x_2} F_1(x, g_1(x))\cdot 1\,dx - \int_{x_1}^{x_2} F_1(x, g_2(x))\,1\,dx$$

$$PS = -\int_{\mathrm{Int}\,c} \frac{\partial F_1}{\partial y}(x,y)\,dx\,dy = -\int_{x_1}^{x_2} \left[\int_{g_1(x)}^{g_2(x)} \frac{\partial F_1}{\partial y}\,dy\right] dx =$$

$$= -\int_{x_1}^{x_2} \left[F_1(x, g_2(x)) - F_1(x, g_1(x))\right]$$

ANALOGIIE

$$f = F'$$

$$\int_a^b f(x)\,dx = [F]_a^b = F(b) - F(a)$$