

12.1.2

$$C: y = 4x^2 \quad (0, 0) \quad (1, 4)$$

$$t = x \quad t = 0 \quad \rightarrow \quad t = 1$$

$$y = 4t^2 \quad \begin{array}{l} \text{if } t=0 \\ \text{if } t=1 \end{array} \quad \begin{array}{l} y=0 \\ y=4 \end{array}$$

$$\int_C F(r) \cdot dr = \int_0^1 F(t, 4t^2) \cdot \frac{dr}{dt} dt$$