$x = f(t) \quad y = g(t) \qquad \alpha \leq t \leq \beta$

asume curve is from left to right with increasing t ✗ or $\frac{dx}{dt} \geq 0 \rightarrow$ for other cases $t_{min} \leftrightarrow t_{max}$

<u>or</u> $\frac{dy}{dt} \geq 0$

$$L = \int_{\alpha}^{\beta} \sqrt{\left(\frac{dx}{dt}\right)^2 + \left(\frac{dy}{dt}\right)^2}\, dt$$