When you have

$$x(t) =$$
 something $y(x) = y(x(t))$

then

$$\frac{dy}{dx} = \frac{\frac{dy}{dt}}{\frac{dx}{dt}}$$

because

$$\frac{dy}{dt} = \frac{dy}{dx}\frac{dx}{dt}$$

by the chain rule.

Taproot • 2021-2022