find $\frac{dy}{dx}$ when $x = t^2$, $y = 2t$

$x = t^2$ $\qquad$ $y = 2t$

$\frac{dx}{dt} = 2t$ $\qquad$ $\frac{dy}{dt} = 2$

$$\frac{dy}{dx} = \frac{dy}{dt} \cdot \frac{dt}{dx} = 2 \cdot \frac{1}{2t}$$

$$\underline{\frac{dy}{dx} = \frac{1}{t}}$$