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State $\frac{dx}{dt} = 2t - \frac{2}{2t+1}$

Use correct quotient rule or correct product rule

Obtain $\frac{dy}{dt} = \frac{(2t+1) \cdot 1 - t(2)}{(2t+1)^2}$ oe

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

Obtain answer $\frac{1}{2(2t+1)(2t-1)(t+1)}$

Obtain $x = \left(\frac{y}{1-2y}\right)^2 - \ln\left(\frac{2y}{1-2y} + 1\right)$

Use correct quotient rule to differentiate

Obtain $\frac{dx}{dy} = \left(\frac{2y}{1-2y}\right) \left(\frac{(1-2y) + 2y}{(1-2y)^2}\right) - \frac{2}{1-2y}$

$\frac{dy}{dx} = \frac{\left(1 - \frac{2t}{2t+1}\right)^3}{-2\left(1 - \frac{4t}{2t+1}\right)\left(1 - \frac{t}{2t+1}\right)} = \frac{1}{-2(2t+1)(1-2t)(t+1)}$

Obtain answer $\frac{1}{2(2t+1)(2t-1)(t+1)}$