

Natural Logarithms

Definition –

$$\frac{d}{dx}(\ln u) =$$

Product Rule

Difference Rule

Power Rule

If u is a differentiable function that is never zero,

$$\int \cot x \, dx = \int \frac{\cos x}{\sin x} \, dx$$

$$y = \frac{x^4}{4} \ln x - \frac{x^4}{16}$$

$$y = \ln(\ln x)$$

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

$$\int \frac{8x \, dx}{4x^2 - 5}$$