

Derivatan av $\ln x$

$$f(x) = \ln x, \quad x > 0$$

$$e^f = e^{\ln x}$$

$$e^f = x$$

$$\frac{d}{dx}(e^f) = \frac{d}{dx}(x)$$

$$e^f \cdot f'(x) = 1 \quad \Rightarrow$$

$$f'(x) = \frac{1}{x}$$

$$\frac{d}{dx}(\ln x) = \frac{1}{x}$$