1   K13.83

$$y = \frac{(\ln x - 1)\ln 10}{\ln x \cdot \log_3 x} \cdot 10^{x/\log_3 x}$$

$$((\ln x - 1)\ln 10)' = \frac{\ln 10}{x}$$

$$(\ln x \cdot \log_3 x)' = \frac{\log_3 x}{x} + \frac{\ln x}{x \cdot \ln 3}$$

$$(10^{x/\log_3 x})' = 10^{x/\log_3 x} \cdot \ln 10 \cdot \frac{\log_3 x - x \cdot (x \ln 3)^{-1}}{log_3^2 x}$$

$$y' = \frac{\frac{\ln 10}{x} \cdot (\ln x \cdot \log_3 x) - (\ln x - 1)\ln 10 \cdot \left(\frac{\log_3 x}{x} + \frac{\ln x}{x \cdot \ln 3}\right)}{\ln^2 x \log_3^2 x} \cdot 10^{x/\log_3 x} +$$

$$+ \frac{(\ln x - 1)\ln 10}{\ln x \cdot \log_3 x} \cdot 10^{x/\log_3 x} \cdot \ln 10 \cdot \frac{\log_3 x - x \cdot (x \ln 3)^{-1}}{log_3^2 x}$$