

$$y = 7^x$$

$$7 = e^{\log_e 7}$$

$$7 = e^{\ln 7}$$

$$y = (e^{\ln 7})^x$$

$$= e^{\ln 7 x}$$

$$y' = e^{\ln 7 x} \cdot \ln 7$$

$$= 7^x \ln 7$$