Derivatives of exponential and logarithmic functions

3.11.1
(a)

$$\frac{dy}{dx} = \frac{e^{x^2+1}\cdot(2x)\cdot\ln(1-x) - e^{x^2+1}\cdot\frac{1}{1-x}\cdot(-1)}{(\ln(1-x))^2}$$

(b)

$$\frac{dy}{dx} = \cos(\sin(\sin 4^x))\cdot\cos(\sin 4^x)\cdot\cos 4^x\cdot 4^x\cdot\ln 4$$

(c)

$$y = \log_5\frac{\cot x}{2x-1} = \log_5\left|\frac{\cot x}{2x-1}\right| = \log_5|\cot x| - \log_5|2x-1|$$

$$\frac{dy}{dx} = \frac{1}{\cot x\cdot\ln 5}\cdot(-\csc^2 x) - \frac{1}{(2x-1)\cdot\ln 5}\cdot 2$$

3.11.2