

$$y^2 \ln x + x^2 \ln y = 1 \quad , \text{求 } y'$$

解: $\frac{d}{dx} (y^2 \ln x + x^2 \ln y) = 0$

$$\Rightarrow 2yy' \ln x + y^2 \cdot \frac{1}{x} + 2x \ln y + x^2 \frac{y'}{y} = 0$$

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

$$\Rightarrow y' = \frac{-2x \ln y - \frac{y^2}{x}}{2y \ln x + \frac{x^2}{y}}$$