11. Given $y = x^{2x^3+1}$, use logarithmic differentiation to find $\frac{dy}{dx}$.

Write your answer in terms of $x$.

Answer

$$\frac{dy}{dx} = x^{2x^3+1} \left( 6x^2 \ln x + \frac{2x^3+1}{x} \right)$$