Quiz **Name**

1. You're given a differentiable function $y = f(x)$ that has an inverse function $y = f^{-1}(x)$. Verify that $\frac{d}{dx} f^{-1}(x) = \frac{1}{f'(f^{-1}(x))}$.

2. Use properties of the function $f(x) = \ln x$ and its derivative to compute the derivative of $g(x) = (x^3 + 3x^{-4})^{-\frac{1}{2}}(e^{x^2 + 57x})(3x^5 + 34x^2 + 10)^{70}$.