

CALCULUS

Derivatives of logarithmic functions

OLD

0390-1. Differentiate $f(x) = \ln(|4x^2 + 2x + 3|)$.
OLD

0390-2. Differentiate $z = \log_{10}(|4x^2 + 2x + 3|)$.
OLD

0390-3. Differentiate $g(x) = 1 + [\cos(\ln x)]$.
OLD

0390-4. Differentiate $h(x) = e^{\ln x}$.
OLD

0390-5. Differentiate $\beta(x) = \ln(\pi + \sqrt{e})$.
OLD

0390-6. Differentiate $H(q) = \sqrt[3]{\ln q}$.
OLD

0390-7. Differentiate
OLD

$$y = \ln \left(\left| \frac{(x+4)^3(x-3)^2}{(2x+5)^7(4x^3-2x-1)^9} \right| \right).$$

0390-8. Differentiate

OLD

$$F(s) = \ln \left(\left| 2s^3 e^{2s} + s^2 e^{2s} - 5s e^{2s} + 7e^{2s} \right| \right).$$

0390-9. Differentiate $u = 4t^3 \log_{10} \left(\sqrt[7]{t} \right)$.

OLD

0390-10. Let $f(x) = [x^4] [\ln(3x + 1)]$.

OLD

Find $f'(x)$ and $f''(x)$.