

CALCULUS
Derivatives of logarithmic functions
NEW

0390-1. Differentiate $f(x) = \ln(|x^6 + e^3x|)$.

0390-2. Differentiate $y = \log_e(|x^8 + 4x^7 - \pi^4|)$.

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

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

0390-5. Differentiate $\alpha(x) = \ln(\sqrt{2} + \sqrt{3} - 1)$.

0390-6. Differentiate $H(t) = (\ln t)^{-2/3}$.

0390-7. Differentiate

$$p = \ln \left(\left| \frac{2x^3 - 4x^2 + 4x + 1}{(-3x - 6)^3(x^2 + x)^5(e^x)^2} \right| \right).$$

NEW 0390-8. Differentiate

$$F(w) = \ln \left(\left| \sqrt[3]{7} w^3 e^{5w} - w^4 e^{5w} - w e^{5w} - e^{5w+1} \right| \right).$$

NEW 0390-9. Differentiate $u = -3t^9 \log_e \left(\sqrt[8]{t} \right).$

NEW 0390-10. Let $f(x) = \left[x^{2/7} \right] \left[\ln(x^2 + ex - 4) \right].$

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