

TMATH 124: Quiz 4

Show *all* your work (numerically, algebraically, or geometrically) for each and simplify. No credit is given without supporting work. No calculators or notes are allowed.

1. [3] (LogWks #2) Find $\frac{dy}{dx}$ when $y = \log_2[(x^3 - x^2) \cos(x)]$

2. [3] (§3.6 #38) Let $f(x) = \log_a(3x^2 - 2)$. Find a so that $f'(1) = 3$.

3. [4] (WebHW12 #7) Find the linearization of the curve $y = \ln(x^2 - 5x + 1)$ at $x = 5$.