

TMATH 124am: Quiz 4

Show *all* your work (numerically, algebraically, or geometrically) for each and simplify. No credit is given without supporting work. There are two sides of this quiz.

1. Find $\frac{dy}{dx}$ for the following:

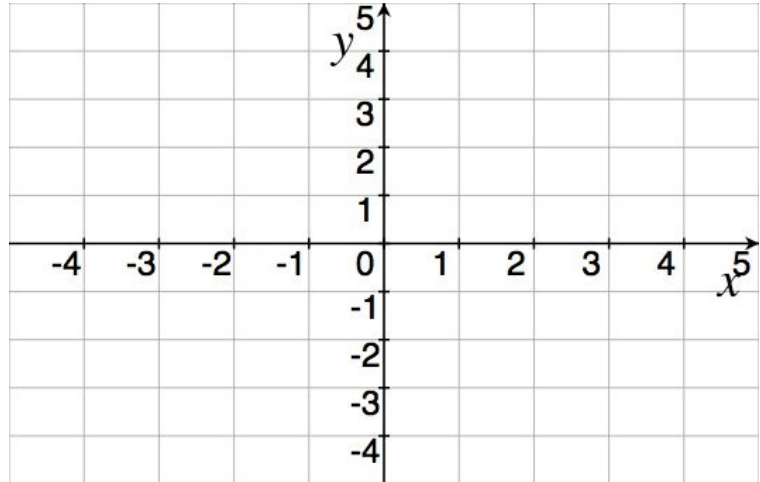
[2] (WebHW10 #3)
 $y = \log(x^6 + 5)$

[3] (LogDif Wks #1b)
 $y = (\sin x)^{\ln x}$

2. Let $f(x) = \log_3(x + 1)$.

(a) [1] Graph $f(x)$ on the axis provided

(b) [1] Sketch the graph of $f'(x)$ on the axis provided.



(c) [3] (§3.6 #33) Find the equation of the line that is tangent to f when $x = 2$.