

# TMATH 124pm: 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. [6] Find  $\frac{dy}{dx}$  for the following:

(WebHW10 #6)

$$y = 2x \log(x)$$

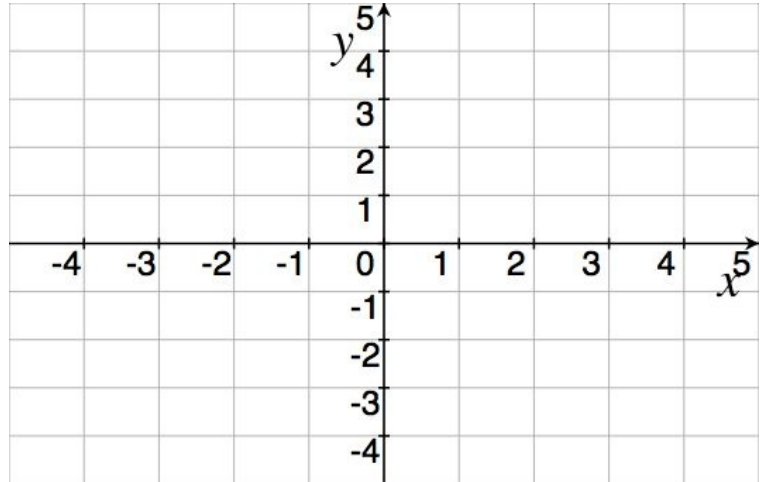
(LogDif Wks #2)

$$y = x^{\sqrt{x}}$$

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

(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  $x = 3$ .