

## Quiz 5

Spring 2013

Your name: \_\_\_\_\_

Math 0220

Your TA's name: \_\_\_\_\_

No calculators, no notes, no books. Show all your work (no work = no credit). Write neatly. Simplify your answers.

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1. Find the limit. Define undeterminate forms and apply l'Hospital's Rule where appropriate.

(a) [2 points]  $L = \lim_{x \rightarrow 0} \frac{x}{(4-x)^{3/2} - 8}$

(b) [3 points]  $L = \lim_{x \rightarrow 0^+} (\sqrt{x})^x.$

2. [5 points] Use guidelines of the section 4.4 to sketch the curve  $y = x - 3x^{1/3}$ .



bonus problem [5 points extra] Find the absolute maximum and absolute minimum values of  $f(x) = \sin x + \cos x$  on the interval  $[0, \pi/3]$ .