

11am

## Quiz 7

Fall 2012

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. Use l'Hospital rule if appropriate.

(a) [2 points]  $\lim_{t \rightarrow \infty} \frac{\ln \ln t}{t}.$

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

2. [5 points] Find the local maximum and minimum values of the function  $f(x) = 2x^{3/2} - 6x$ .

bonus problem [5 points extra] Show that the equation  $3x - 1 - \sin x = 0$  has exactly one real root.