

Quiz 4

Student's name: _____

Math 0220 (evening) Spring 2011

TA's name: _____

1. [5 points] Differentiate the function $y = e^{x \cos x}$.

2. [5 points] Find the limit. Use l'Hospital's Rule if it is necessary.

$$\lim_{x \rightarrow 0} (\csc x - \cot x).$$

3. [5 points] A bacteria culture initially contains 100 cels and grows at a rate proportional to its size. After an hour the population has increased to 300. Find the number of bacteria after t hours.

bonus problem [5 points extra] Find the exact value of the expression $\sec^{-1} \sqrt{2}$.