

NAME:

Math 105 - Quiz 7 - November 6, 2006

Instructions: Show all of your work and circle your final answers. Calculators are allowed, but notes and books are not.

1. Calculate  $\lim_{x \rightarrow 1} \frac{\ln x}{x - 1}$ .

2. Calculate  $\lim_{x \rightarrow \infty} x e^{-x}$ .

3. What is the minimum value of the expression  $x^2 + y$  if  $x + y = 4$ ? Justify your answer.