

Math 126C: Calculus II

Name: _____

Quiz 3 September 12, 2000

Show all your work and all important steps.

1. In the process of inversion, the rate of change of sugar is proportional to the amount of sugar remaining. Suppose after 1 hour there is 1200 g sugar and after 2 hours there is 800 g sugar remaining. Determine how much sugar there was initially.

2. Calculate $\lim_{x \rightarrow 0} \frac{x^2}{\ln(\sec(x))}$.

3. Let $f(x) = x + \ln(x)$ and $g(x) = x + \sqrt{x}$. Determine whether f grows faster than, slower than, or at the same rate as g , as $x \rightarrow \infty$.