Math 126: Calculus II   Name:_____

Quiz 2   *September 7, 1999*   Section:_____

1. Calculate the following, carefully **showing your work** and **all** important steps.

a) $\dfrac{d}{dx}(x^x)$.

b) $\displaystyle\int_0^3 \left(\frac{1}{2}\right)^x dx$

2. A colony of bacteria is grown under ideal conditions in the laboratory so that the population increases exponentially with time. At the end of 2 hours there are 500,000 bacteria. One hour later there are 750,000 bacteria. How many bacteria were present initially?