

Math101 Calculus I Term 072

Quiz 4

Name:

ID #:

Section #:

=====

1. Use a linear approximation to estimate $e^{0.001}$. [3 points]
2. The formula for the volume of a cone is $V = \frac{1}{3}\pi r^2 h$. Find the rate of change of the volume if the radius is increasing 2 inches per minute and $h = 3r$ when $r = 6$ inches. [3 points]
3. Find dy/dx if $\cosh y - x \tanh^{-1} x = \ln(\sqrt{1-x^2})$. [4 points]