Math 124-007 Calculus I with Applications
Sections 3.9, 3.10 Written Homework. Due Thursday, March 22, 2012.

1. Find the local linearization of $y = (1 + x)^k$ near $x = a$. Use this to estimate $\sqrt[4]{1.1}$.

2. (a) Give an example of a function (different than one we saw in class) that is continuous on the interval $[-1, 1]$ but does not satisfy the conclusion of the Mean Value Theorem.

   (b) Give an example of a function which is differentiable on $(0, 2)$ but does not satisfy the conclusion of the Mean Value Theorem on the interval $[0, 2]$.