B-14-1 Calculus
Fall 1997
Prof. H. Riecke

Problem Set 6 October 24, 1997

1. Newton's Method

Ch. 3.9: **36**.

E.5: Find the zero of the function $f(x) = x^{1/3} + 0.2$ using Newton's method. Use a sequence of initial guesses $x_0 = 0.05, 0.01, 0.005, 0.0, -0.005, -0.01$. Describe how the behavior of Newton's method depends on this initial guess. What happens for $x_0 = 0$?

2. Differentials

Ch. 4.2: 1, 5, 9, 10, 21, 24, 25, 28, 33, 37, 38, 41, 47, 49, **22, 34, 52**.

As usually, hand in the **bold-faced problems** including **E.5** in class on Friday.

Remember: The first midterm is next Thursday, October 30, in the discussion sections. The covered material will include the lecture on Monday, October 27.