Math 120 – Week 11 Assignments  
Spring 2003

Monday April 7 Class 27:

Alternating Series Test. We shall learn how to prove convergence for series whose terms alternate in sign.

Homework:
Quiz #9: Infinite Series
Due on Wednesday in Class 28

Wednesday April 9 Class 28:

L’Hôpital’s Rule. We have to take a lot of complicated limits when using the Root Test and the Absolute Ratio Test. We shall review how to evaluate indeterminate limits of the form \( \infty \cdot 0, \infty/\infty \) and \( 0/0 \).
Homework #15: (6 points)
\[ Smith \ & Minton, \ page \ 664-665: \ 7, \ 8, \ 19, \ 20, \ 25, \ 26 \]
READING: Smith \ & Minton, “Alternating Series” Section 8.4 (pages 658-664)
Due on Friday in Class 29

Thursday April 10 Lab 7:

Taylor Series We shall introduce the concept of Taylor Polynomials. These are polynomials which use information about a function \( f(x) \) and its derivatives at a point to approximate the function away from that point.
Lab 6 Due Today

Friday April 11 Class 29:

Introduction to Taylor Series. We shall examine the concept of a power series, and concentrate on a special case: the Taylor series for a function \( f(x) \) at a point \( x = a \)
Homework #16: (6 points)
\[ Smith \ & Minton, \ page \ 519: \ 17, \ 18, \ 20, \ 25, \ 26, \ 36 \]
READING: Smith \ & Minton “Indeterminate forms and L’Hopital’s Rule” Section 7.6 (pages 596-603)
Due on Monday in Class 30