Math 122 Exam 4 Topics Spring 2010

1. Use the Alternating Series Estimation Theorem (page 440) to approximate the limit of a convergent alternating series by the appropriate partial sum. See Section 8.4. Practice by doing problems 9–16.

2. Find the radius of convergence and the interval of convergence of a power series. See Section 8.5. Practice by doing problems 3–18. See also problems 37 and 39, page 480.

3. Given a function $f(x)$, find its Taylor Series expanded in powers of $x - a$. See Section 8.7. Practice by doing problems 5–17 and 27–33.

4. Use Taylor’s Formula for the remainder (Formula 9, page 461) to determine the number of terms of the Maclaurin series for $f(x)$ that should be used to estimate $f(x)$ to within a given error tolerance. See Section 8.8. Practice by doing problems 17–22. For practice in using Taylor’s Formula for the remainder, do problems 9–16.