Calculus 141, Chapter 9 Summary ~ things you should know
notes by Tim Pilachowski

Important concepts:

Taylor polynomials

sequences, including the harmonic sequence and geometric sequences

squeezing theorem applied to sequences

infinite series, including the harmonic series and geometric series

integral test, comparison test, ratio test, root test, alternating series test, absolute convergence

   Check out supplement a and supplement b for tips on knowing which convergence test to use.

power series, including radius of convergence and interval of convergence

Taylor series centered about $x = 0$ and $x = a$

Be able to:

derive the Taylor polynomial $p_n(x)$ for a given degree n

determine whether or not a given sequence converges

evaluate the limit of a given sequence

determine boundedness of a given sequence

derive a sequence of partial sums

determine whether of not a given series converges

calculate the sum of a geometric series

use integral test, comparison test, ratio test, root test, and alternating series test to determine convergence of a series

determine whether a series is absolutely convergent or conditionally convergent

for a given power series, determine the radius of convergence and interval of convergence

derive the Taylor series for a given polynomial and determine its radius of convergence

Review exercises from the text:

Chapter 9 Review Exercises, numbers 1 – 19, 23, 25 and 28 – 41

Chapter 9-Cumulative Review for Chapters 1-8, numbers 1 – 8 and 11 – 19