Math1220 Midterm 3 Review Problems
Kelly MacArthur

Chapter 8 Review (pg 446-447)
Concepts Test Problems #18, 19
Sample Test Problems #27, 28, 31, 33, 37

Chapter 9 Review (pg 504-507)
Concepts Test Problems #1, 3, 6, 7, 9, 12-21 all, 26, 28
Sample Test Problems #1-41 odd, 14, 24, 28, 30, 34, 38, 40

The exam covers sections 8.4, 9.1-9.6.

You can bring one 8.5 x 11 inch paper of notes (on both sides, if you want) to use as a reference. I would recommend that you bring the series' test flow chart as that paper, with whatever else you think you'll need written on the back side.

**Topics:**

- Improper integrals (integrating across or up to a vertical asymptote)

- Convergent/Divergent Sequences
  - take limit as n goes to infinity of nth term of sequence
  - squeeze theorem
  - is it monotonic and bounded?

- Absolutely Convergent/Conditionally Convergent/Divergent Infinite Series
  - nth term test for divergence
  - geometric series
  - p-series
  - absolute ratio test (ART)
  - integral test (IT)
  - ordinary comparison test (OCT)
  - limit comparison test (LCT)
  - argument by partial sums
  - alternating series test (AST)

- Power Series
  - convergence set & radius of convergence