

## Math 311—Summer 2009

### Topics for the second midterm exam

The midterm exam will include proofs of theorems, examples and counterexamples, and some exercises. You will not be asked to explicitly state definitions but, of course, you need to know them in order to understand statements and proofs.

You will be asked to **prove** some of the following:

- Monotone convergence theorem
- Cauchy convergence criterion
- Theorem 20.8 (sequential criterion for limits)
- Theorem 22.2 (as shown in class, with sequences)
- Lemma 22.5
- Theorem 22.10

In addition, you should be familiar with all other results discussed in class and used in the homework assignments so that you can use them to solve problems.