

Math 311—Summer 2009

Topics for the first midterm exam

The midterm exam will include definitions, proofs of theorems, and some exercises. You should also be able to give examples and counterexamples illustrating definitions and theorems.

You will be asked to give a **precise definition** of some of the following:

- supremum of a set
- interior point
- boundary point
- accumulation point
- open set
- closed set
- convergent sequence

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

- Principle of mathematical induction
- Archimedean property of \mathbb{R}
- Theorem 12.10
- Theorem 13.10
- Lemma 14.4
- Theorem 16.13

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.