

Math 3283W: Preparation for Test II

Test II covers material starting with monotonic sequences from Chapter Three and ending with the Root Test and Ratio Test from Chapter Four.

1. You should know all of the definitions. For example, if the question is

Complete the following definition.

The infinite series $\sum_{n=1}^{\infty} a_n$ is convergent if ...

You would write after ... ,

the sequence $\{S_n\}$ is convergent, where for each n , $S_n = a_1 + \cdots + a_n$

(or something very similar).

2. You will be asked to prove at least one of (or perhaps part of one of, or something closely related to one of!) the following:

Theorem 6.2. (Ch 3)

Theorem 6.4 (Ch 3)

Theorem 2.5 (Ch 4)

Theorem 2.8 (Ch 4)

Theorem 4.1 (Ch 4)

Theorem 5.1 (Ch 4)

Theorem 5.5 (Ch 4)

3. You should be able to provide counterexamples to statements about sequences and series.
4. You should be able to state certain theorems. For example, you should be able to answer the question: *State the Integral Test for convergence of infinite series.*
5. You will be asked to determine whether particular sequences, or infinite series, are convergent or divergent. You should be able to answer such a question and give reasons for your answer (perhaps by referring to some theorem by name (not number) from the Notes).