

Study guide for quiz 02

Quiz problems include both the lecture contents and homework problems.

1. Section 10.1: Review the techniques of finding the limit of a sequence including Sandwich Theorem for sequences, L'Hôpital's Rule, Theorem 2-4 and related examples.

Sample problems: The examples in Theorem 5. Also memorize the results for future application.

2. Section 10.1: **Parts to skip:**

Skip the "Recursive Definition" part.

Skip the "Bounded Monotone Sequences" part. We will come back to it later.

3. Section 10.2:

Study the definition of sum of a series (as a limit).

Study the n -th term test for application (Section 10.2, problem 31, 33, 41) and proof.

Review conditions on convergence/divergence of a geometric series (Section 10.2, problem 71, 78).

Review the technique of telescoping sum (Section 10.2, problem 43, 65).

4. Section 10.3: Study the statement and proof of the integral test (Theorem 9) and Bounds for the Remainder in the Integral Test (page 611). Practice with examples. In particular, derive and memorize the convergence/divergence of a p -series.