

## Study guide for quiz 03

Quiz problems include both the lecture contents and homework problems.

1. 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.
2. Section 10.4: Study The Comparison Test and The Limit Comparison Test. Focus on how to find a suitable target series to compare with. In almost all cases, the target series can be found from the geometric series, the  $p$ -series or series of the form  $\sum_{n=1}^{\infty} f(n)$  where  $\int_1^{\infty} f(x) dx$  is easy to compute.
3. Section 10.5: Study the Absolute Convergence Test, the Ratio Test and the Root Test. Practice each of these tests with some examples (such as section 10.4: problems 17-44).