

Study guide for Midterm 01

Midterm problems include both the lecture contents and homework problems.

1. Review study guide for quiz 01-04 (section 10.1-10.8).
2. Section 10.9: Study the statement of Taylor's Theorem (formula). Study the Remainder Estimation Theorem and application on elementary functions.
3. Section 10.10: Memorize the binomial series and the Taylor series of basic functions in Table 10.1 (page 658). Practice on variants of these series: perform differentiation/integration on them and see if you can recognize the resulting new series. Then practice on examples such as section 10.10, problems 41-52 and Chap 10, Practice Exercises, problems 51-56.
4. Section 10.10: Review the application of Taylor series in
 - (a) Indeterminate forms (section 10.10, problems 29-40 and Chap 10, Practice Exercises, problems 73-79).
 - (b) Approximating integrals and the error estimate (such as section 10.10, problems 15-28).