

Study guide for Midterm 02

Midterm problems include both the lecture contents and homework problems.

1. Review study guide for midterm 01. Review and correct your mistakes in midterm 01.
2. Review study guide for quiz 05-07 (section 14.2-14.7). Note: study guide for quiz 05 is updated with item 3 revised.
3. Section 14.7: Review the gradient analysis that helps to classify the critical points when the second derivative test is inconclusive, and how it can be applied to find absolute max and absolute min on a bounded region.
4. Section 14.8: Review all cases for the method of the Lagrangian multipliers. For example, extreme values of
 - functions of 2 variables, with 1 constraint.
 - functions of 3 variables, with 1 constraint.
 - functions of 3 variables, with 2 constraints.
5. Section 14.9: Review the derivation of Taylor's formula for functions of two or more variables. Memorize the results.