

MATH 400: Homework #12 [Optional to Submit]

Only the ‘Submission Problems’ listed below are due Thursday, 12/3, before 11:59pm, via a PDF file uploaded to the Homework#12 under Assignments in the Blackboard course page.

This HW score will be used to replace any lower HW score from previous 11 HWs.

You are allowed to discuss the homework problems with no one except your classmates, the TA, and the instructor. However, the solutions should be written by you and you alone in your own words. **If you discussed HW problems with a classmate or TA, you have to write their name at the top of the HW submission as a collaborator.** Any incident of plagiarism/ cheating (from a person or from any online resource) will be strictly dealt with.

Re-read the [“Homework Assignment”](#) and [“Why and How’ of Homework”](#) sections of the course information sheet for some important advice on the HWs for this course.

All problems require explicit and detailed explanations. Solutions should be written clearly, legibly, and concisely, and will be graded for both mathematical correctness and presentation. Points will be deducted for sloppiness, incoherent or insufficient explanation, or for lack of supporting rationale.

Always remember that homework is NOT meant to be an examination, it is meant to assist in your learning and development. If you need help with any HW problem, don’t hesitate to ask me. You are encouraged to ask questions during the *Live Class on Blackboard*, through the *Blackboard Discussion Forums*, during the *Google Meet Office Hours*, during the *TA office hours*, or through *Email to me*.

PART I: Practice Problems

1. Pay close attention to and attempt at least the following exercises from the textbook.
Section 7.4: #1, #3, #5, #6, #7, #11 (this is a useful exercise to think about at least once).
Section 7.5: #1, #3, #5, #7, #9 (*Total Variation* of a function is essential concept in advanced analysis and probability, make a note of it), #10.

PART II: Submission Problems

2. **Submit written solutions to the five problems listed below.**
 - Section 7.3: #7.
 - Section 7.4: #1, #6.
 - Section 7.5: #1, #7.

PART III: Readings, Comments, etc.

3. Coming Soon!