

## Math 447 - Fall 2025 - Homework 09

Published: Thursday, October 16, 2025

### Status - Reading Assignments:

Here are the reading assignments to be completed before the first one of this HW.

WMS (Wackerly, et al. Textbook):

ch.2 - 3.9, 3.11 - 4.10, 5.1 - 5.3, parts of ch.6.5; skip 3.10 and 4.11

MF447 lecture notes:

ch.1 - 11.7.2

Other:

Nothing assigned yet

Really important: For the WMS reading assignments, work through the examples!

### Reading assignment 1 - due Monday, October 20:

- Study for the second midterm!

### Reading assignment 2 - due: Wednesday, October 22:

- a. Skim MF ch.11.7.3. This was meant to be read for Fri Oct 17, but I wrote "ch.11.7.1" by mistake.
- b. skim WMS 3.10 and 4.11
- c. Carefully read MF ch.11.8 and ch.11.9 through Example 11.8. Understand how the multinomial distribution is used to derive formulas concerning order statistics!

### Reading assignment 3 - due Friday, October 24:

- a. Carefully read the remainder of MF ch.11.9.
- b. Carefully read the non-optional parts of MF ch.11.10 and skim the remainder.

Written assignments are on the next page.

**General note on written assignments:** I will not collect those assignments for grading but doing them might be helpful for your quizzes and exams.

- (a) Work closed book through the examples given in the assigned reading, both in MF and WMF.
- (b) Pertaining to HW8:
- ☐ Be sure you can apply the Tchebysheff inequalities! ☐ Understand the increased complexity when dealing with a vector of two (or even more) random variables: Unless they are independent, conditioning significantly increases the technical difficulty.
- (c) Conditional expectations are very important, so the same is true for MF ch.11.7 and WMS ch.5.11.
- (d) All WMS exercises below are odd-numbered, so the solutions are in the book.
- WMS ch.4.6 exercises: #4.6.081, 4.6.091, 4.6.109
  - WMS ch.4.9 - 4.10 exercises: #4.9.145, 4.10.147, 4.10.151
  - WMS ch.5.2 exercises: #5.1, 5.3, 5.5, 5.7, 5.11, 5.15
  - WMS ch.5.3 exercises: #5.19, 5.21, 5.23, 5.25, 5.33,
  - WMS ch.5.4 exercises: #5.45, 5.51, 5.63, 5.71,

**Selected answers:**

None, since all answers to (a) can be found in WMS and the lecture notes.