

Math 447 - Fall 2025 - Homework 07

Published: Wednesday, October 1, 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

MF447 lecture notes:
ch.1 - 9.2

Other:
Nothing assigned yet

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

Reading assignment 1 - due Monday, October 6:

- a. Carefully read the remainder of MF ch.9 (that's ch.9.3–9.5).
- b. Carefully read WMS ch.3.1–3.9. The focus should be on the examples.

Reading assignment 2 - due: Wednesday, October 8:

- a. Carefully read MF ch.10.1–10.3 You have encountered the theory of ch.10.3 already ch ch.6.
- b. Carefully read WMS ch.4.1–4.3, and read the parts of WMS ch.6.5 that correspond to MF ch.10.3.

Reading assignment 3 - due Friday, October 10:

- a. Carefully read MF ch.10.4 – 10.6 and ch.10.8. You definitely have to memorize the PDFs and MGFs of the r.v.s discussed here. The toughest material might be the one on quantiles $p \mapsto \phi_p$ as a “generalized inverse” of the CDF F_Y .
- b. Skim MF ch.10.7 and ch.10.9.

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.
- The WMS examples become disproportionately more important in the application oriented course material.
- (b) You must be able to write from memory the definitions of
- CDF, PMF, PDF, MGF $E[Y]$, $E[g \circ Y]$, $Var[Y]$, σ_Y , and all important $E[\dots]$ formulas, BOTH for \square discrete (summation with PMFs) and \square continuous (integration with PDFs) random variables
 - quantiles
- (c) All WMS exercises below are odd-numbered, so the solutions are in the book.
- WMS ch.3.6 exercises: #3.91, 3.93, 3.95
 - WMS ch.3.7 exercises: #3.103, 3.105, 3.117
 - WMS ch.3.8 exercises: #3.121, 3.127, 3.135
 - WMS ch.3.9 exercises: #3.145, 3.147, 3.153

Selected answers:

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