Math 447 - Spring 2026 - Homework 07

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Status - Reading Assignments:

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

MF447 lecture notes:

    ch. 1 – 9.2

WMS (Wackerly, et al. Textbook):

    Ch. 2

Other:

    Nothing assigned yet

New reading assignments:

> It is really important for the WMS reading assignments that you work through the examples!

Reading assignment 1 - due Monday, March 2:

  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, March 4:

  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, March 6:

  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.

(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 ⊡ $E[Y], E[g \circ Y], Var[Y], \sigma_Y$, and all important $E[\ldots]$ formulas, BOTH for ⊡ discrete (summation with PMFs) and ⊡ 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.