

Math 447 - Fall 2024 - Homework 06

Published: Tuesday, September 17, 2024

Status - Reading Assignments:

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

WMS (Wackerly, et al. Textbook):
Ch.1 - 2.6

MF447 lecture notes:

Ch.1 - 3, ch.4 (non-optional parts), ch.5, ch.6 (strong students), ch.7

Other:

Nothing assigned yet

New reading assignments:

Important: Work through the examples of the WMS reading assignments!

Reading assignment 1 - due Monday, September 23:

- Carefully read the remainder of WMS ch.2. The examples are important!
- Carefully read MF ch.8.

Reading assignment 2 - due: Wednesday, September 25:

- Carefully read MF ch.9.1 - 9.3. Strong students: Do you see how the material of MF ch.6.5 (Expectation and Variance as Probability Measure Integrals) fits the definitions given here?
- Carefully read WMS ch.3.1 - 3.4.

Reading assignment 3 - due Friday, September 27:

- Carefully read the remainder of MF ch.9.
- Carefully read WMS ch.3.5 - 3.8.

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) Write from memory the following definitions and compare them with the MF lecture notes:

- PMF of a discrete random variable $Y : (S, P) \rightarrow \mathbb{R}$
- Expectation of a discrete random variable Y with PMF $p_Y(y)$ • variance and standard deviation of Y
- Definitions of Bernoulli sequences and variables; binomial, geometric, negative binomial, hypergeometric, Poisson distributions. • For each distribution: What is a typical application?

(b) Do the simple exercises of MF ch.9.

(c) All WMS exercises below are odd-numbered, so the solutions are in the book.

- WMS ch.2.7 exercises: #2.71, 2.75, 2.79
- WMS ch.2.8 exercises: #2.95, 2.101, 2.107
- WMS ch.2.9 exercises: #2.111, 2.113, 2.115, 2.117
- WMS ch.2.10 exercises: #2.125, 2.129, 2.131, 2.135
- WMS ch.3.2 exercises: #3.7
- WMS ch.3.3 exercises: #3.15, 3.21, 3.25, 3.31, 3.37
- WMS ch.3.4 exercises: #3.37, 3.43, 3.53, 3.59