

UPDATED GENERAL INFORMATION — OCTOBER 9, 2017

Office hours

Beginning Monday, October 16, office hours will be from 1:30 P. M. to 2:30 P. M. on Mondays, or by appointment. The best ways to make appointments are by electronic mail or speaking with me before or after class.

Assignments for Chapters I — III

Working the exercises listed below is **strongly recommended**.

The following exercises are taken from `set theory-exercises.pdf`:

Chapter I

- Section I.2, Questions to answer: 1, 3

Chapter II

- Section II.0 (*sic*), Exercises from Rosen: 9, 11, 12, 15
- Section II.0 (*sic*), Additional exercises: 4
- Section II.0 (*sic*), Problems for study: Lipschutz, 10.8–10.10, 10.17, 10.21

REMINDER. There numberings of sections in `set theory-exercises.pdf` and `set theory-notes.pdf` are inconsistent. In fact, II.0 in the exercises corresponds to II.1 in the notes, II.1 in the exercises corresponds to II.2 in the notes, and II.2 in the exercises corresponds to II.3 in the notes.

- Section II.1 (*sic*), Questions to answer: 1, 2
- Section II.2 (*sic*), Exercises to work: 1–4
- Section II.2 (*sic*), Problems for study: Lipschutz, 1.6, 1.44

Chapter III

- Section III.1, Exercises to work: 1, 3, 5, 6, 11(*ce*), 12
- Section III.1, Problems for study: Lipschutz, 1.18, 1.50, 1.53, 11.14
- Section III.2, Exercises to work: 1 parts (4) and (6)
- Section III.2, Problems for study: Lipschutz, 3.2, 3.35, 3.40
- Section III.3, Exercises to work: 1, 3, 4
- Section III.3, Problems for study: Lipschutz, 1.66(*b*), 3.35, 5.1, 5.3, 5.31

- Section III.4, Exercises to work: 1

The following references are to the course directory file `exercises91f17.pdf`:

- Section III.1: 101–104
- Section III.3: 101
- Section III.4: 101

Reading assignments from solutions to exercises

The solutions to these exercises in `set theory-solutions.pdf` and `solutions91f17.pdf` should be read and understood at the passive level. Here is the difference between passive and active understanding:

A passive understanding means that one can follow the reasoning presented in a written proof fairly well.

An active understanding means that one knows the argument well enough to explain it correctly — or nearly so — to someone else (for example, on a quiz or examination).

The following exercises are taken from `set theory-exercises.pdf`:

- Section I.1, Solutions to read: 2, 4

Another strong recommendation is to read through the solutions to the exercises in the file `logic-exercises.pdf`, which are given in `logic-solutions.pdf`.

- Section I.2, Solutions to read: 2, 4
- Section I.3, Solutions to read: 2
- Section II.1, Solutions to read: (Exercises from Rosen) 14, 16; (Additional Exercises) 5
- Section III.1, Solutions to read: 2, 4, 9, 13, 14
- Section III.2, Solutions to read: 3
- Section III.3, Solutions to read: 3

Reading recommendations for other files

Since quite a few files have been mentioned thus far, we shall indicate what they contain for the readers' benefit.

<http://math.ucr.edu/~res/math144-2017/solutions90f17.pdf>

Informal suggestions for how to think about solutions to exercises.

<http://math.ucr.edu/~res/math144-2017/polya.pdf>

Classic advice on problem solving from a well-known book on the subject.

<http://math.ucr.edu/~res/math144-2017/mathproofs.pdf>

More detailed discussion of proofs, with quotes from the Sherlock Holmes stories to summarize points. A companion file

<http://math.ucr.edu/~res/math144-2017/mathproofs2.pdf>

contains the dog cartoon by Sidney Harris on confusing a statement with its converse.

<http://math.ucr.edu/res/math144-2017/you-want-proof.gif>

Another Sidney Harris cartoon on proofs.

<http://math.ucr.edu/~res/math144-2017/braintest1.pdf>

A humorous file on avoiding tunnel vision when analyzing something. There are also files 2,3,4 in this series with 5 possibly forthcoming.

Final remark

Up to this point, or at least through Section III.2, many students have seen a great deal of the material in previous courses. Some new concepts were introduced in the remaining Sections of Chapter III, and in Chapter IV there will be even more new or substantially reformulated material. The pace will be shifting into second or third gear.