

18.100A Assignments – Fall 2009

Notation: The references are to the book: Mattuck, *Introduction to Analysis*

Q1.2/2 Question 2 at the end of Section 1.2 of the text; solution at end of Chapter 1.

1.4/3 Exercise 3 for Section 1.4, at end of Chapter 1.

P5-2ab Problem 2, parts a and b, at end of Chapter 5.

Advice:

The **exercises** are associated with a section in the book; look in that section for relevant help – similar-looking worked examples, theorems that could be used, etc.

The **problems** are less specific – anything in the chapter may turn out to be of help.

An **asterisk** next to an exercise or problem indicates that that it has been corrected or changed in some way from an early printing: consult the list of corrections on the book website (link to it provided on the 18.100A website).

The **questions** should be tried without looking at the solutions – use the solutions for hints, if stuck, or as model answers to check your work afterwards. (Not all the solutions are models – some are just brief sketches.)

Procedure: Hand in the Friday assignment at the next class meeting (usually Monday); hand in the Monday and Wednesday assignments on Friday. If you aren't in class that day, you can put the assignment under my door 2-241 during the class hour, or before.

Assignments will be graded and returned at the next class meeting. Papers not picked up will be put in a box outside my door after class for retrieval anytime.

W	Sept. 9	1.	Chap. 1, App. A.(as needed). 1.4/1; 1.5/3,4; P1-1ac
F	Sept. 11	2.	Chap. 2. 2.1/3* (see above), 2.4/2, 2.5/3, 2.6/1, P2-1a
M	Sept. 14	3.	Chap. 3.1-3.6 3.1/1b; 3.2/3; 3.4/3; 3.6/1b (due Friday)
W	Sept. 16	4.	Chap. 4.1,2,4 4.2/2; 4.4/1a*; P4-1
F	Sept. 18	5.	Chap. 5.1-3, 5.5 5.1/3 (use 5.3); 5.2/4; 5.3/1,6; P5-1*
M	Sept. 21	6.	Chap. 5.4, 6.2 5.4/1 ($k = 2$ only), 5.4/2, 6.2/1b*,2*, P5-4 (due Fri.)
W	Sept. 23	7.	Chap. 6.1-4. (6.4 - just defn of Cauchy seq.) 6.1/1b, 6.3/1; 6.4/2; P6-3
F	Sept. 25	8.	Chap. 6.4,5 (omit proof) 6.4/1; 6.5/1ac,3ag; P6-2ab (important)
M	Sept. 28	9.	Chap. 7.1-2. 6.5/2; 7.2/1,3b,4 (due Fri.)
W	Sept. 30	10.	Chap. 7.3-5. 7.3/4; 7.4/1abcefh, 4; 7.1/2 and P7-5
F	Oct. 2	11	Chap. 7.6, 8 (thms,xmpls;skip pfs,Abel) 7.6/1bc, [8.1,8.2]/1abde, 8.1/3, 8.3/1, 8.4/1a; P7-1
M	Oct. 5	12	No new assignment
W	Oct. 7		Exam 1
F	Oct. 9	13	Chap. 9,10 9.2/2; 9.3/3,5; 10.1/5,6b,7b; 10.3/2,4(same as 5)
T	Oct. 13	14.	Chap. 11.1-3. 11.1/1,4,5; 11.2/3; 11.3/3a (due Fri.)
W	Oct. 14	15.	Chap. 11.4-5. 11.4/1, 11.5/1ab; P11-2*
F	Oct. 16	16.	Chap. 12.1-2 12.1/1,5; 12.2/2,3,4; optional, for a + (hand in on separate sheet): P12-7)
M	Oct. 19	17.	Chap. 13.1-3. 13.1/1,2; 13.2/1a, 13.3/3a, 13.3/1b*, P13-2
W	Oct. 21	18.	Chap. 13.4 (lightly),13.5 13.5/5,6; P13-6
F	Oct. 23	19.	Chap. 14. 14.1/2,4; 14.3/1,2b; P14-1,6ab
M	Oct. 26	20.	Chap. 15. 15.2/1ab; 15.3/2ab; 15.4/1; P15-2 (due Fri.)
W	Oct. 28	21.	Chap. 18.1-.3 (18.4: skip proofs) 18.2/2 Q18.3/3ab 18.3/1 (replace n by k), 3
F	Oct. 30	22.	Chap. 19.1-4 (.5,.6 read statements) 19.2/1(use lower sums); 19.3/2,3; 19.4/2

M	Nov. 2	23.	Chap. 20.1-4. 20.1/1; 20.2/4; 20.3/2,3; P20-2a (due Fri.)
W	Nov. 4	24.	Chap. 20.5-6, 21.1-2. 20.5/1b,2; 20.6/4; P20-6; 21.1/2 (put $x = 1/u$); 21.2/1ceh, 2
F	Nov. 6	25.	Chap. 21.3-4 (not on exam 2). P20-1; 21.3/1; 21.4/3ab; P21-4 (due Fri. 11/13) for P20-1, inverse functions: cf. 9.4, 12.4, Thm 14.2C; for 21.4/3b use comparison Fri.class handouts (now in box): Practice exs. for Exam 2 (also posted); Solns to #23, #24 (only in box, not posted)
M	Nov. 9		Exam 2 in 2-190 12:05-2:55; 1:50 hours; lectures 13-24
F	Nov. 13	26.	Chap. 22.1-2. 22.1/1ac, 2(cf. Thm.17.2); 22.2/2bd
M	Nov. 16	27.	Chap. 22.3-4. 22.2/3a; 22.3/1,2; 22.4/3
W	Nov. 18	28.	Chap. 22.5-6. 22.5/1; 22.6/1,5a; P22-2, P22-3b
F	Nov. 20	29.	Chap. 22.6, 24.1-4 22.5/2; P22-4; 22.6/4; 24.1/3; 24.2/2; 24.4/1,2
M	Nov. 23	30.	Chap. 24.5-7, 25.1-2 24.5/5; 24.7/2; P24-1; 25.1/1; 25.2/2 (due Mon.)
W	Nov. 25	31.	Appendix B (no hand-in HW; can practice on QB.1, QB.2, Exercises)