

Homework 5

Math 469 (section 500), Spring 2016

This homework is due on Thursday, February 18.

0. (*This problem is not to be turned in.*)
 - (a) Read Sections 2.7–2.8
 - (b) Section 2.7 #16
1. Section 2.12 #17, 18, 20 (read Example 2.14 first), 21, 22
2. (In this part of your homework, you will begin writing parts of your final paper.) *You may write these together with your project partner – if so, only one of you needs to turn in this part, but state clearly on both homeworks that you are doing this.*
 - (a) State the main scientific and/or mathematical question(s) that the paper addresses. (*Your answer should be in the form of a question.*)
 - (b) Describe (in several sentences) the scientific and/or mathematical background needed to understand the question(s) you stated in part (a).
 - (c) What were the objectives of the paper? How do they relate to the question(s) you stated in part (a)? What did the authors do to meet these objectives (for instance, did they develop or analyze a mathematical model)?

Final project (rubric)

The final report is due on Friday, May 6, by 5pm, to the instructor's office.

Requirements for the final report: The report should explain, critique, and/or extend the results in the paper you have chosen to read and analyze. Specifically, the report must:

- (a) describe the scientific/mathematical background,
- (b) state the main scientific/mathematical questions addressed in the paper,
- (c) describe the authors' objectives and what they do to achieve them,
- (d) state at least one main mathematical result (together with all necessary definitions),
- (e) interpret the significance of the result in terms of the authors' objectives,
- (f) explain the scientific/mathematical conclusions the authors reached, and
- (g) extend the results in the paper and/or critique some scientific or mathematical aspect of the paper.

There is no length restriction, but each final report will likely comprise several pages.

Grading for the final report: Grading is out of 100 points, largely for meeting the requirements listed above:

- 30 points for (a)–(c)
- 30 points for (d)–(f)
- 20 points for (g)
- 10 points for addressing comments from the instructor and peers on prior drafts
- 5 points for organization and clarity
- 5 points for correct spelling and grammar.

Requirements for the final presentation: The presentation should accomplish (a)–(g), with the aid of computer slides. The time allotted for each presentation (2 students) is 20 minutes, with additional time for questions.

Grading for the final presentation: Grading is out of 100 points: 50 points for achieving (a)–(g), 30 points for clear and effective slides, 20 points for organization and clarity.