

Homework 1

MATH 348

due at 5pm on Tuesday, September 17, 2024

Solve the following problems and communicate your solutions clearly using complete sentences. Your proofs may rely on definitions and theorems stated in the text or given in class.

Remember what the syllabus says about appropriate collaboration, and document what sources you use and what assistance you receive as you work on this homework.

For this first homework, you must type your solutions to at least the first three problems in L^AT_EX. You may type or write your solutions to the remaining problems. Make sure your solutions are easy to read, in order, and clearly labeled. Upload a single file containing your solutions to the [Homework 1](#) assignment on Moodle.

Some of the problems will be graded in detail, and the rest will be graded for completion.

1. (5 points) Exercise 2.1 in the text
2. (4 points) Exercise 2.2 in the text
3. (4 points) Exercise 2.3 in the text
4. (5 points) Exercise 2.4 in the text
5. (4 points) Exercise 2.5 in the text
6. (3 points) Exercise 2.6 in the text
7. (5 points) Exercise 2.7 in the text: the ϵ - δ part is optional, but the open set part is required
8. (6 points) Exercise 3.1 in the text
9. (4 points) Exercise 3.2 in the text