Homework 2

Math 330

due at 5pm on Thursday, September 21, 2023

Solve the following problems and communicate your solutions clearly. Explain your work using complete sentences, and include diagrams as appropriate.

For this first homework, you must type your solutions to at least four of these problems in LaTeX. 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 2 assignment on Moodle.

The following problems are from the textbook.

1. (3 points) Exercise 2.1.1

2. (4 points) Exercise 2.1.2

3. (6 points) Exercise 2.1.3 (c) and (d)

4. (4 points) Exercise 2.1.9

Hint: If (t_1, x) and (t_2, x) are points in D, then explain why $u(t_1, x) = u(t_2, x)$.

5. (6 points) Exercise 2.2.2 (a) and (c)

You may draw the graphs by hand or using technology. If you are typing the solution to this problem, then use the `\includegraphics` command to insert your graphs into your document.

6. (4 points) Exercise 2.2.4

7. (3 points) Exercise 2.2.12