Write clearly and legibly, in complete sentences. You may discuss the homework with other students, but the final write-up must be your own. If your solution uses any results not introduced in class, state the result clearly and provide either a reference or a proof.

1. Section 2.3, Problem 23. (20 marks)
2. Section 2.3, Problem 26. (10 marks. Caution: the function $f$ does not have to be continuous or bounded.)
3. Section 2.4, Problem 34. (10 marks)
4. Section 2.4, Problem 40. (10 marks)