MATH 360 — HOMEWORK 4.

due on Friday, September 27.

by J. E. Marsden and M. J. Hoffman

Additional Reading: “Foundations of Modern Analysis”
by J. Dieudonné

Topics:
• Introduction: Sets and Functions
• 1 The real Line and Euclidian Space
  – 1.1 Ordered Fields and the Number System
  – 1.2 Completeness and the Real Number System
  – 1.3 Least Upper Bounds
  – 1.4 Cauchy Sequences
  – 1.5 Cluster Points; lim inf and lim sup

Fourth Homework Assignment.

Reading:
• Read Sections 1.3, 1.4 and 1.5, paying attention to all the examples.

Exercises:

Problem 1. Prove Proposition 1.5.5 ii. from the book.

Problems:
• Page 48: problems: 1, 3, 4, 5
• Page 51: problems: 1, 2, 3
• Page 56: problems: 1, 2, 3, 4, 5
• Page 97: problems: 8, 15.

The topics and page numbers are from the textbook.