MATH 361 — HOMEWORK 10.

due on Friday, November 20.

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

Topics:

• Chapter 6: Differentiable Mappings
  – 6.1 Definition of the Derivative
  – 6.2 Matrix Representation
  – 6.3 Continuity of Differentiable Mappings; Differentiable Paths
  – 6.4 Conditions for Differentiability
  – 6.5 The Chain Rule
  – 6.6 Product Rules and Gradients
  – 6.7 The Mean Value Theorem

• Differentiability of Multilinear Maps and Inverses. Operations on Functions (The Lectures)

Tenth Homework Assignment.

Reading:

• Read Sections 6.5 to 6.7. (We are going to discuss partial derivatives in greater detail next week.) Read the slides (or/and watch the videos).

Exercises: Problems:

• Page 348: problems 3, 4, 5
• Page 352: problems: 1, 2
• Page 355: problems:1, 2, 4, 6
• Page 383: problems:12