

MATH 210A: Mathematical Physics

Instructor: Michael Holst

Fall Quarter 2015

Homework Assignment #3

Due Date: NONE (just some suggested problems to look at to complement the lectures)

Exercise 3.1. (*Introduction to Nonlinear Analysis*)

- Show that the norm in an inner-product space is strictly convex. (This is (9.11(1) in 3rd Ed.)
- Exercise 8.10(1) in 1st Ed. (9.11(2) in 3rd Ed.)
- Exercise 8.10(2) in 1st Ed. (9.11(3) in 3rd Ed.)
- Exercise 8.10(3) in 1st Ed. (9.11(4) in 3rd Ed.)
- Exercise 8.10(4) in 1st Ed. (9.11(5) in 3rd Ed.)
- Exercise 8.10(10) in 1st Ed. (9.11(11) in 3rd Ed.)
- Exercise 8.10(13) in 1st Ed. (9.11(14) in 3rd Ed.)
- Exercise 8.10(20) in 1st Ed. (9.11(21) in 3rd Ed.)