Math 515, Fall 2012
Problem Set #2
Due 10/8

You are welcome/encouraged to work with others. Please say with whom you collaborated. You must justify your work completely for full credit. Do what you have time for.

Problem 1. do Carmo Exer. 3.1

Problem 2. (optional. Recommended if you are in Prof. Adeboye’s Lie groups course.) do Carmo Exer 3.3

Problem 3. Calculate the sectional curvature for the sphere of radius $r$. Calculate it for hyperbolic space.

Problem 4. (optional. Recommended if you are in Prof. Adeboye’s Lie groups course.) do Carmo Exer 4.1

Problem 5. do Carmo Exer 4.4

Problem 6. (optional. Locally symmetric spaces are of great interest to me; remarkably, they can all be described by Lie groups.) do Carmo Exer 4.6

Problem 7. do Carmo Exer 5.2

Problem 8. do Carmo Exer 5.3