Homework 1

MATH 439/836

Due date: 31/01/2014

1. E3.3*, E3.10, E3.11(a-b), E3.11(c-g)*, E3.13

2. (a) Suppose that M is a differentiable manifold and S is a submanifold of M. Using the differentiable structure on M, define a differentiable structure on S (*Hint: Intersect the charts on M with S*).

    (b) Suppose that M and N are differentiable manifolds. Using the differentiable structure on M and N, define a differentiable structure on $M \times N$ (*Hint: Use the Cartesian product of charts*)