Math 8061 Homework 3

Due Thursday, 9/23/21

1. Problem 2–5 in Lee's book.

2. Problem 2–6 in Lee's book.

3. Problem 2–7 in Lee's book.

4. Let M be a smooth manifold. Let $f\colon M \to \mathbb{R}$ be a positive continuous function. Use a partition of unity to construct a smooth function $g\colon M \to \mathbb{R}$ such that $0 < g(x) < f(x)$ for all x.