MAT140B WINTER 2024: PROBLEM SET 5

Due: S 02/18/2024, by 11:59pm

Directions: You can collaborate, but must write up the solutions independently and in a good handwriting. **Consulting solutions to problem sets of previous semesters or internet solutions is not allowed.**

Problem 1. Let $f\colon \mathbb{R} \to \mathbb{R}$. Let $S \subset \mathbb{R}$ be not bounded above. For $x \in \mathbb{R}$ set $f_x(t) = f(xt)$. Prove that if $F = (f_x)_{x\in S}$ is equicontinuous then f is constant.

Problem 2. Chapter 7: 12

Problem 3. Chapter 7: 16, 18

Problem 4. Chapter 7: 19