

## MAT140C SPRING 2024: PROBLEM SET 7

**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.** Study for which  $\alpha \in \mathbb{R}$  the function  $f(x) := x^\alpha$  is Lebesgue integrable on the interval  $(0, 1)$ .

**Problem 2.** Chapter 11: 8, 9, 10, 11, 12