

## Assignment 1

Coverage: 15.1 in Text.

Exercises: 15.1. No 7, 9, 11, 16, 18, 20, 25, 27, 32, 33, 34.

Submit no. 20, 32, and 34 by Jan 19 (by Gradescope through Blackboard).

### Supplementary Problems

This problem is optional.

1. Consider the function  $g$  in  $\mathbb{R}^2$  defined by  $g(x, y) = 1$  whenever  $x, y$  are rational numbers and equals to 0 otherwise. Show that  $g$  is not integrable in any rectangle.