

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 September 20, 2022 .

Supplementary Problems

These problems are optional.

1. Show that the function $\varphi(x) = 1/x, x \in (0, 1]$, and $\varphi(0) = 1$ is not integrable on $[0, 1]$.
2. 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.