

1. In your last homework you showed that Riemann integrable functions are measurable. Now show that the Riemann integral and the Lebesgue integral agree for such functions.
2. Carothers 18.21
3. Carothers 18.26
4. Carothers 18.36
5. Carothers 18.39
6. Carothers 18.40
7. Carothers 18.41
8. 18.55
9. For $t \in \mathbb{R}$ and $f \in L_1$, let $f_{t(x)} = f(x - t)$. Show that $f_t \in L_1$ and that the map $t \mapsto f_t$ is continuous from \mathbb{R} to L_1 .
10. Carothers 18.41
11. Carothers 19.23