1. Exercise 16 on page 52.

2. Let $f : \mathbb{R} \to \mathbb{R}$ be a Lebesgue integrable function. Prove that $f = 0$ $m$-a.e. if and only if
   $$\int_{\mathbb{R}} f \phi \, dm = 0$$
   for all continuous function $\phi$.

3. Exercise 22 on page 59.

4. Exercise 23 on page 59.

5. Exercise 28 on page 60.

6. Exercise 33 on page 63.