1. Problem 15, chapter 18 (on page 365) of Royden and Fitzpatrick. Only do parts (i) and (ii).

2. Problem 45, chapter 18 (on page 380) of Royden and Fitzpatrick.

3. Give an example of measures μ and ν on a measurable space (X, Σ) such that ν is absolutely continuous with respect to μ, and yet there exists a number $\epsilon_0 > 0$ such that for all $\delta > 0$, there is some set A in Σ for which $\mu(A) < \delta$ and $\nu(A) \geq \epsilon_0$. (Compare with the theorem proved in class about additive set functions which are absolutely continuous with respect to μ.)