HOMEWORK SET #2: DUE SEPTEMBER 30

(1) Munkres:
  - §16 2
  - §17 13,19
  - §18 6, 13
  - §19 8
  - §20 6, 8

(2) Suppose Y is a topological space, X is a set and $f : X \to Y$ is a function. Prove that there is a coarsest topology on X for which f is continuous.

(3) let I be an uncountable set, and let $X = \prod_{i \in I} \mathbb{R}$. Each $\mathbb{R}$ is equipped with the standard topology, and X is equipped with the corresponding product topology. Prove that X is not metrizable. What about if X is equipped with the corresponding box topology?