

Written Assignment 9 (due 3/22/13 by end of class)

Exercise 1: Let \mathcal{T} and \mathcal{T}' be two topologies on a set X such that $\mathcal{T} \subset \mathcal{T}'$. If X is compact with respect to \mathcal{T} is it necessarily compact with respect to \mathcal{T}' ? Conversely, if X is compact with respect to \mathcal{T}' is it necessarily compact with respect to \mathcal{T} ? For each direction either prove it to be true or provide an explicit counterexample.

Section 26: # 2(a), 4, 5, 6