

Homework 17: Compactness

*Directions. Assignments should be **stapled**.*

1. §7.1, #7.8, 7.9, 7.13(a).
2. Prove that X is compact if and only if the following condition holds: For every collection \mathcal{C} of closed sets in X whose intersection is empty, there exists a finite subcollection of \mathcal{C} whose intersection is empty.

Note: You may find it helpful to solve this problem before solving the textbook problems above.