

Topology I, Newberger, Spring 2005

Homework: Sections 32

Part I is due May 5; part II is due May 12.

- I. A. (10 points) Write the proof of Lemma 26.4.
- B. (10 points) Write the proof of Theorem 32.3. This theorem is proved rather vaguely in the text. Write your own proof of this argument that demonstrates the missing details.
- II. A. (10 points) Write the definition of a locally compact topological space. Prove that \mathbb{R} under the standard topology is locally compact. Give an example of a topology on \mathbb{R} under which \mathbb{R} is not locally compact.
- B. (10 points) Do problem #3 on page 205.