

Math 540: Exercises for Week 6

Reading: Hatcher Section 1.3

1. Hatcher 1.3.18
2. Hatcher 1.3.19
3. Hatcher 1.3.31
4. Let M be a manifold (smooth or topological).
 - (a) Prove that the fundamental group of M is countable.
 - (b) Prove that any covering space of M is also a (smooth or topological) manifold.
5. Read the introduction to Chapter 2 of Hatcher, which is a leisurely discussion of the motivating ideas involved in homology, at some point before next Monday's lecture.