

Math 541: Hyperbolic 3-Manifolds  
Homework 4

**1-6.** Do Exercises 6.4, 6.6, 6.7, 6.10, 5.8, 5.9 from Purcell.

**7.** Install Sage (<http://www.sagemath.org>) on your computer. Following the instructions on the SnapPy website (<https://www.math.uic.edu/t3m/SnapPy/installing.html>, scroll down to Sage section), install SnapPy in Sage. Also, install the Snappy app on your computer (not in Sage). The SnapPy app has a graphical user interface that is useful for visual things, while having SnapPy installed in Sage is useful for some rigorous computations that SnapPy can't do on its own. All of this should go smoothly except for installing SnapPy in Sage, which can be a bit of a pain. Let me know if you get stuck.