

Math 541: Hyperbolic 3-Manifolds
Homework 1

- 1-3.** Do Exercises 1.1, 1.2, and 1.4 from Purcell.
- 4.** Try to understand Figure 1.26 on page 41 of Thurston's book. It may help to read the second half of page 40.
- 5.** Let $\pi : M^n \rightarrow D^n$ be the map given in class from the Minkowski model to the ball model, and let $i : D^n \rightarrow U^n$ be the map given in class from the ball model to the upper half-space model. Use the inverses of these maps to pull the metric $\langle \cdot, \cdot \rangle_{(n,1)}$ on M^n back to D^n and U^n .