# Problem Set #4

## Due Friday, November 1 by 5pm to Dickinson 104

*Unless otherwise indicated, all numbered problems come from "To Measure the Sky." Also, unless otherwise indicated, assume all observations take place from Bennington.*

1. Problem 1.9
   Additionally: Explain why you can't simply **add** magnitudes to find the answer to this problem.
2. Problem 1.10
3. Problem 1.12
4. The star HIP 72509 has an apparent magnitude of +12.1 and a parallax angle of 0.222 arcsecond.
   a. Determine its absolute magnitude
   b. Find the approximate ratio of the luminosity of HIP 72509 to the Sun's luminosity (*Hint: You'll have to look up the Sun's absolute magnitude*).
5. Problem **10**.10