**ASTR1200- REVIEW SHEET FOR SECOND EXAM**

This sheet is designed to help you prepare for the second exam. It does not cover all the material, but should give you a good idea of what kind of questions to expect. Some of the material was covered on the first exam but may show up again on the second.

1. Describe the formation of the Sun. What factors determine its current size, luminosity and brightness.

2. A star is observed to have a parallax of .03 arcseconds - how far away is it?

3. Know the parts of the electromagnetic spectrum. Be able to calculate the peak intensity wavelength of a thermal spectrum given its temperature. Be able to calculate the luminosity of a star given its radius and temperature.

4. List the letters for the spectral types in order of decreasing temperature.

5. Draw an HR diagram. Show the main sequence, the giants and the white dwarfs. Label your axes.

6. Show the path that the Sun takes across the HR dagram from formation to its end state in the distant future. Make sure you understand the physical reasons behind each move.

7. Show the HR diagram path that a 20 solar mass star takes through its evolutionary lifetime.

8. What is a white dwarf? What are typical masses, radii and temperatures? What is the Chandrasekhar limit?

9. What causes a supernova? When was the last supernova seen by astonomers? When was the last observed supernova in the Milky Way?

10. What is a neutron star? How are they formed? How big is one? What is the limit on their masses? How is it that they are observed as pulsars? How else can they be detected?

12. What is a nova? What is a dwarf nova?

13. Be able to calculate the velocity of approach or recession given the wavelength shift of a spectral line. (Doppler)