

AST 301

Review questions for Exam #4

Exam date: Friday Dec. 3

1. Area and volume: how do they depend on width?
2. Describe the Milky Way Galaxy
3. Describe the Standard Candle method of determining distances and how Cepheid variable stars are used as standard candles.
4. Describe how astronomers measure the distribution of mass in a galaxy and what they find.
5. Describe the various types of galaxies and how they differ from the Milky Way.
6. What is Hubble's law? How is it measured?
7. What does Hubble's law tell us about the Universe?
8. What is the Universe made of?
9. What are dark matter and dark energy? What evidence do we have that they exist?
10. Is the rate of expansion of the Universe changing?
11. What could make the expansion slow down? What could make it speed up?
12. How did the temperature of the gas in the Universe change with time since the big bang? What caused the temperature to change?
13. What particles and atoms were made at different times in the early Universe?
14. What is the cosmic microwave background? How was it emitted and why is it seen at the wavelengths it is?
15. What do the fluctuations in the microwave background tell us about the early Universe?