

Bring a Scantron 883 for the exam. You may use notes written on one standard, pre-cut, 3x5-inch index card, written in your own hand; you may use both sides.

Bad Astronomy (Study notes: Bad Astronomy)

Explain what is wrong with the following misconceptions:

- 1 *The North Star is the brightest star.*
2. *There is a Dark Side of the Moon.*
- 3 *The phases of the Moon are caused by the Earth's shadow.*
4. *It's hot in summer because we are closer to the Sun in summer.*
5. *A theory is an unproven idea.*

Overview of the Universe (Study notes: Universe; Reader 2)

1. Know the name of the Supercluster, Galaxy Cluster, and Galaxy we live in.
2. Explain the difference between the Solar System, Milky Way Galaxy and the Universe.
3. What is the difference between a star and a planet?
4. The speed of light is 300,000 _____. How fast do radio waves travel?
5. The Universe is 14 _____ years old.
6. Describe the cycle of star birth and star death and how it leads to the formation of planets.
7. Explain why astronomers are looking into the past when they look into the sky.

Celestial Sphere. Starrise and Starset (Astropedia 2: Motions in the sky; Reader 8; Lecture-Tutorial p 1-2 "Position")

1. Describe the parts of the Celestial Sphere: the North Celestial Pole, South Celestial Pole, Celestial Equator.
2. Diagram these terms: horizon, zenith, the meridian.
3. Describe how the stars move in the sky because of the rotation of the Earth on its axis. (Sky Gem #1)
4. Explain why some stars rise and set every day and why some don't. What is the difference between north circumpolar stars and south circumpolar stars?
5. What is special about Polaris?

The Shape of the Earth

1. What evidence showed ancient Greek astronomer that the Earth was spherical?
2. How did Eratosthenes measure the size of the Earth?

The Annual Motion of the Sun (Astropedia 2: Constellations and Seasons; Reader 12 & 20, Lecture-Tutorial "Seasonal stars", "Ecliptic")

1. Explain why the time is later to the east and earlier to the west.
2. Explain the difference between **Local Mean Time**, **Standard Time**, and **Greenwich Mean Time (Universal Time)**.
3. Describe how the motion of the Earth around the Sun causes the Sun to appear to drift along the ecliptic thru the constellations of the zodiac. Which way does it move on the ecliptic, eastward or westward?
4. Explain the difference between the equinoxes and the solstices and give the approximate dates on which they occur.