

DEPARTMENT OF ASTRONOMY
University of Florida

AST 1002
Sample Homework

1. Fill in the blanks.

<u>Location of Sun</u>	<u>Date</u>	<u>Sun's Right Ascension</u>	<u>Sun's Declination</u>
<u>Vernal Equinox</u>	<u>(3/21)</u>	<u>(0^h)</u>	<u>(0°)</u>
<u>(Summer Solstice)</u>	<u>(6/21)</u>	<u>(6^h)</u>	<u>(23 1/2 N)</u>
<u>(Autumnal Equinox)</u>	<u>(9/21)</u>	<u>(12^h)</u>	<u>0°</u>
<u>(Winter Solstice)</u>	<u>12/21</u>	<u>(18^h)</u>	<u>(23 1/2 S)</u>

2. Due to the orbital motion of the earth the sun appears to move (eastward) (direction) along the (ecliptic) (path name) at a rate of (1) degrees per (day).
3. The earth's rotational motion causes the sun to appear to move (westward) (direction) along a (diurnal circle) (path name) at a rate of (15) degrees per (hour).
4. You are located in Gainesville, Florida (Lat. = 30 N, Long. = 82 W).
 a. On March 21 the sun rises (due east) (direction) transits (30) degrees (S) (direction) of your zenith and sets (due west) (direction).
 b. An object having a declination 5 N will rise (north of east) (direction) transit (25) degrees (S) (direction) of your zenith and will set (north of west) (direction).
 c. An object having a declination 20 S will rise (south of east) (direction) transit (50) degrees (S) (direction) of your zenith and will set (south of west) (direction).
5. The right ascension of the sun on November 26 is _____ (16^h 20^m)
6. You are located at 45 N latitude. The north celestial pole (polaris) will be elevated (45) degrees above your (N) (direction) horizon along the (meridian) (name of circle).
7. In Gainesville the mean sun transits at (1228) (EST) (1328) (EDT).
8. The hour angle of the rising sun on September 21 is _____. (18h)
9. A given object has a right ascension of 14^h 15^m and an hour angle of 16^h 50^m. What is the sidereal time? _____ (7^h 5^m)

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