

Name: \_\_\_\_\_

## Intro Astro Lab Prep Quiz: Lab 2: The Sky

**Instructions:** There are 10 multiple-choice problems each worth 10 marks for a total of 100 marks altogether. Choose the **BEST** answer, completion, etc., and **DARKEN** fully the appropriate circle on the table provided below. Read all responses carefully. **NOTE** long detailed responses won't depend on hidden keywords: keywords in such responses are bold-faced capitalized.

This is a 10 minute quiz.

### Answer Table for the Multiple-Choice Questions

	a	b	c	d	e		a	b	c	d	e
1.	O	O	O	O	O	6.	O	O	O	O	O
2.	O	O	O	O	O	7.	O	O	O	O	O
3.	O	O	O	O	O	8.	O	O	O	O	O
4.	O	O	O	O	O	9.	O	O	O	O	O
5.	O	O	O	O	O	10.	O	O	O	O	O

1. "Let's play *Jeopardy!* For \$100, the answer is: It is an imaginary sphere centered on the Earth, set at infinity, and used to project all astronomical objects on for mapping."

What is the \_\_\_\_\_, Alex?

- a) celestial globe    b) celestial sphere    c) celestial cube    d) Boundless  
e) sphere of the fixed stars

2. Which of the following is **NOT** on the celestial sphere?

- a) celestial equator    b) north celestial pole    c) celestial meridian    d) north pole  
e) ecliptic

3. From the Earth-at-rest perspective, the celestial sphere rotates \_\_\_\_\_ on the \_\_\_\_\_ once per \_\_\_\_\_.

- a) westward; celestial axis; civil day    b) eastward; celestial axis; sidereal day  
c) westward; celestial axis; sidereal day    d) westward; celestial equator; sidereal day  
e) eastward; celestial equator; civil day

4. The celestial sphere mapped onto a spherical surface is a:

- a) sky globe    b) celestial sphere    c) celestial globe    d) celestial glove  
e) terrestrial globe

5. The equatorial coordinate system for the celestial sphere is analogous to the \_\_\_\_\_ for the Earth.

- a) geographical coordinate system    b) horizontal coordinate system    c) constellation system  
d) galactic coordinate system    e) GPS system

6. "Let's play *Jeopardy!* For \$100, the answer is: These coordinates depend on time because of the Earth's axial precession."

What are \_\_\_\_\_, Alex?

- a) longitude and latitude    b) horizontal coordinates    c) local coordinates  
d) Cartesian coordinates    e) equatorial coordinates

7. "Let's play *Jeopardy!* For \$100, the answer is: These coordinates are most useful for locating objects on the celestial sphere at one instant in time at one place on Earth."

What are \_\_\_\_\_, Alex?

- a) moral coordinates    b) longitude and latitude    c) Cartesian coordinates  
 d) equatorial coordinates    e) horizontal coordinates

8. “Let’s play *Jeopardy!* For \$100, the answer is: It is the angular coordinate of the horizontal coordinate system that is measured from the horizon along a great circle that passes through zenith.”

What is \_\_\_\_\_, Alex?

- a) polar angle    b) altitude    c) height    d) azimuth    e) algol

9. In the northern hemisphere north of the tropics, a meridian transit of the Sun occurs at azimuth \_\_\_\_\_ (as one would usually record it) and in the southern hemisphere south of the tropics, at azimuth \_\_\_\_\_ (as one would usually record it).

- a) 180°; 0°    b) 0°; 180°    c) 90°; 270°    d) 0°; 0°    e) 180°; 180°

10. The general formula for altitude along the meridian is

$$A_{N/S} = 90^\circ + (\pm)_{N/S}(L - \delta)$$

where  $N/S$  means measured from due north/south,  $(\pm)_{N/S}$  means plus/minus for measured from due north/south,  $L$  is latitude counted positive/negative for north/south latitude, and  $\delta$  is declination.

The declination of the south celestial pole (SCP) is  $-90^\circ$  and in Las Vegas the latitude is approximately  $36^\circ$  N. For Las Vegas, what is the altitude of the SCP from due south and is it above, on, or below the horizon?

- a)  $0^\circ$ ; on the horizon.    b)  $24^\circ$ ; above the horizon.    c)  $-36^\circ$ ; below the horizon  
 d)  $54^\circ$ ; above and below the horizon.    e)  $-90^\circ$ ; below the horizon.