Exercise A6: The Celestial Coordinate System

Student name: _____ Class: _____ Date: _____

Check the box with the correct answer.

Question 1: What is the declination of an object that lies directly on the celestial equator?

- ☐ **a.** + 90 degrees
- ☐ **b.** - 90 degrees
- ☐ **c.** 0 degrees
- ☐ **d.** 180 degrees

Question 2: What is the declination of an object that lies equidistant between the celestial equator and the south celestial pole?

- ☐ **a.** + 45 degrees
- ☐ **b.** - 45 degrees
- ☐ **c.** + 60 degrees
- ☐ **d.** - 30 degrees

Question 3: What is the right ascension of an object exactly on the vernal equinox?

- ☐ **a.** 23h 59m 59s
- ☐ **b.** 12h 00m 00s
- ☐ **c.** 00h 00m 00s
- ☐ **d.** 24h 24m 24s

Question 4: Locate the star Altair in the sky. What are its approximate celestial coordinates?

- ☐ **a.** RA = 9 h 40 m Dec = +19° 52'
- ☐ **b.** RA =19 h 52 m Dec = + 9° 40'
- ☐ **c.** RA = 9 h 40 m Dec = - 19° 52'
- ☐ **d.** RA = 19 h 52 m Dec = - 9° 40'

Question 5: Which bright star has the following celestial coordinates?

RA = 3 h 59 m Dec = -13° 28'

- ☐ **a.** Fomalhaut
- ☐ **b.** Alpheratz
- ☐ **c.** Aldebaran
- ☐ **d.** Zaurak

Question 6: Which of the following statements is correct:

- ☐ **a.** A star's right ascension is constant but its declination changes because of the change in latitude of the observer's location.
- ☐ **b.** Both the right ascension and declination of a star's celestial coordinates change with the observer's geographical location.
- ☐ **c.** A star's declination is constant but its right ascension changes because of the change in longitude of the observer's location.
- ☐ **d.** The celestial coordinates of a star do not change when an observer's location on the Earth changes.

Question 7: How do the coordinates of Vega change between 3009 and 2009?

- ☐ **a.** Both the RA and DEC are the same.
- ☐ **b.** Both the RA and DEC are different.
- ☐ **c.** Only the DEC is different.
- ☐ **d.** Only the RA is different.