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°
- ☐ **b.** -90°
- ☐ **c.** 0°
- ☐ **d.** 180°

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

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

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: Click and drag your cursor to move around and find the star Altair. What are the approximate celestial coordinates of Altair?

- ☐ **a.** RA = 8 h 55 m Dec = +19° 50’
- ☐ **b.** RA =19 h 50 m Dec = + 8° 55’
- ☐ **c.** RA = 8 h 55 m Dec = - 19° 50’
- ☐ **d.** RA = 19 h 50 m Dec = - 8° 55’

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Question 5: Which star has the following celestial coordinates: RA = 3 h 59’ Dec = -13° 28’

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

Question 6: Which of the following statements is correct:

- ☐ **a.** A star’s celestial coordinates change with the time of day.
- ☐ **b.** A star’s celestial coordinates change with the observer’s geographical location.
- ☐ **c.** A star’s declination is constant but its right ascension changes with the observer’s location.
- ☐ **d.** The celestial coordinates of a star do not change based on an observer’s location on the Earth.

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

- ☐ **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.