

Name _____ Date _____ Moravian University

A SKY FOR ALL SEASONS

(11 Points)

Instructions: You may complete this assignment by yourself, with a partner, or in a team setting. Each person will provide his or her own responses in case there is a disagreement with the answers. All questions have their origin in Edwin Krupp's article, *A Sky for All Seasons*. You should be able to answer some of the questions without having to look up the information. Answer those questions first, and then go back and hunt down the rest of the answers in the article. Complete and send to beckerg@moravian.edu by Wednesday evening 11:59 p.m. for full credit. Thanks! **Much success!!**

- _____, _____ Correct Answers Here: The sun basically rises in the direction of ... and sets in the direction of.... (Answers must be in their correct order)
- __8__ Correct Answer Here: In *A Sky for all Seasons*, Edwin Krupp talks about the sun's position as located after the meridian or "post-meridien." If the time was "8" and the sun was to the west of the meridian, we would say that the time was...
- _____ Correct Letter Here: As an ancient astronomer looked at the sky from his or her observation location, the sky was witnessed against two basic reference positions which were easy to observe. Think ancient astronomy here or being in a planetarium.
 - ecliptic and ecliptic pole
 - latitude and longitude
 - right ascension and declination
 - horizon and zenith
 - equator and poles
- _____ Correct Letter Here: An observer walks for many weeks due north from Moravian's campus over the spherical Earth with the front of his/her body facing the star Polaris (North Star) and his/her back facing the stars in the south. What would that person observe? There are two correct answers. Only give me one of them.
 - Polaris would get higher in the sky.
 - The stars in the south would get lower in the sky.
 - The daytime sun would get higher in the sky.
 - Little would happen to Polaris, since it remains stationary, even if the person were to walk for many, many months.
 - Polaris would move towards the east.
- _____ Correct Answers Here: When the sun is due south on the meridian, the local time is said to be... Remember what was said about a.m. / p.m.
- _____, _____ Correct Letters Here: What two common intervals of time are governed directly by the Earth's movement through space, which are reflected in the sun's motion in the sky?
 - day
 - week
 - month
 - fortnight (two weeks)
 - year
 - precession of the equinoxes

7. _____, _____, _____ Correct Letters Here: Describe **THREE** traits of winter related to astronomy from the information given below.
- | | |
|--------------------------------------|---|
| a. shorter nights | e. north facing windows bright at sunset |
| b. shorter days | f. sunrise south of east/sunset south of west |
| c. warmer colors (more reds/yellows) | g. bright-direct sunlight |
| d. high sun | h. indirect-low angle sunlight |
8. _____ The word **solstice** means (two or three words).
_____ The word **equinox** means (two words).
9. Give **one characteristic** of all cultures that engaged in precise astronomical observations. If you do not know the answer or cannot find the answer in the article, see if you can figure out an answer that would be appropriate. There are many more correct responses than what Edwin Krupp implies.
- _____
- _____
- _____
10. _____ Answer Goes Here: From a place like Moravian University on the date of the summer solstice, the sun rises farthest to the north of east. At noon, it transits as high above the horizon as it is ever seen from campus. Finally, the sun sets as far to the... of west as it ever does, on this, the longest day of the year.
11. _____, _____ Correct Answers Here: The sun moves along a path called the... While doing so, it passes through a dozen constellations which lie along its route called the “ring of animals.” Another word for these constellations is called the... Your answers must appear in their correct order.
- | | |
|-------------------------|-------------|
| a. Celestial equator | d. Zodiac |
| b. Ecliptic | e. Meridian |
| c. Circle of precession | f. Polaris |

Extra Credit—one point: In *A Sky for all Seasons*, Edwin Krupp talks about the motions of the **SUN**, **MOON**, and the **STARS**. Disregarding the motion of precession, which object’s movement in the sky is the most complex to explain and which object’s motion in the heavens is the simplest to understand? Partial credit will be given.

_____ Most complex
_____ Simplest