

## ANSWER PAGES FOR EXERCISE 14.0 ON ECLIPSES

1. Date sun at ascending node: \_\_\_\_\_; at descending node: \_\_\_\_\_.
2. Significance of above dates is \_\_\_\_\_  
\_\_\_\_\_
3. Phase of the Moon: \_\_\_\_\_.
4. Lunar event or aspect: \_\_\_\_\_.
5. Location of nearest lunar orbital node: \_\_\_\_\_.
6. Identification of node: \_\_\_\_\_.
7. Identification of node: \_\_\_\_\_.
8. Considering the angular distance of the Earth's shadow from the nearest node and the line the Moon follows through the shadow, why is or isn't this an umbral eclipse that is of maximum duration?
  
9. Type of eclipse: \_\_\_\_\_.
10. 

	Eclipses in 2007		Eclipses in 2011
1 <sup>st</sup> season	2 <sup>nd</sup> season	1 <sup>st</sup> season	2 <sup>nd</sup> season
  
11. Next lunar eclipse visible from here: \_\_\_\_\_.
12. Next solar eclipse visible at this location: \_\_\_\_\_.
13. Coordinates of lunar nodes: Ascending node: RA \_\_\_\_\_ Dec \_\_\_\_\_.  
Descending node: RA \_\_\_\_\_ Dec \_\_\_\_\_.
14. Measured distance along ecliptic in cm between the VE & AE: \_\_\_\_\_.
15. Elongation chart scale: \_\_\_\_\_ (deg./cm).

**Exercise 14.0. Answer Page 2**

16. Separation of nodes along ecliptic in cm: \_\_\_\_\_ ; in degrees:\_\_\_\_\_.
17. Angular distance of nearest lunar orbital node from the center of the cross-section of the Earth's shadow for the eclipse of 5-24-1994 : \_\_\_\_\_.
18. The middle dates for each season in 2007 are \_\_\_\_\_ and \_\_\_\_\_.
19. Time interval between middle dates for each eclipse seasons in 2007: \_\_\_\_\_.
20. The beginning and end dates for each of the eclipse seasons for the year 2007 are:  
\_\_\_\_\_ to \_\_\_\_\_, and \_\_\_\_\_ to \_\_\_\_\_.
21. Middle dates for each eclipse season in 2011 are \_\_\_\_\_ and \_\_\_\_\_.
22. Time interval between middle dates for each eclipse seasons in 2011: \_\_\_\_\_.
23. The beginning and end dates for each of the eclipse seasons for the year 2011 are:  
\_\_\_\_\_ to \_\_\_\_\_, and \_\_\_\_\_ to \_\_\_\_\_.
24. Amount the eclipse seasons shifted in weeks between the above years is: \_\_\_\_\_.  
The amount of shift per year is: \_\_\_\_\_
25. Astronomical name for this shift: \_\_\_\_\_.
26. Cause of the shift in the eclipse seasons: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.
27. Zone time of lunar opposition from printout #2: \_\_\_\_\_.