

CELESTIAL OBSERVATIONS

Name _____

Partners _____

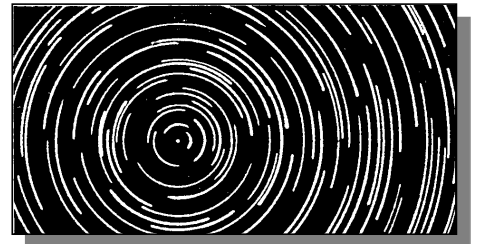
Directions: define the following terms.

celestial sphere -	altitude -	azimuth -
star trails -	circumpolar stars -	rotation -
revolution -	orbit -	retrograde motion -

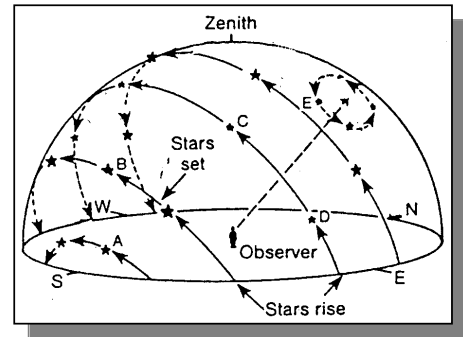
Directions: give the best answer to the following questions.

1. Where the celestial sphere meets the Earth is called the _____.
2. If Polaris (the North Star) is at your *zenith*, where are you?

3. If I say "comet Hale-Bopp is 26° above the horizon," I'm giving you the comet's _____.
4. The Sun's *azimuth* at sunrise on March 21 was _____, and its *azimuth* at solar noon is always _____.
5. Most objects *appear* to move across the sky at a constant rate of _____ per hour, because the Earth is _____.
6. The dot at the center of the photo above is Polaris, which is always in the _____ sky, _____ sets, and stays in one spot during the night, for locations in the Northern Hemisphere. The streaks around Polaris are made by _____, which _____ set, because _____.
7. The positions of stars appear to shift slightly to the _____ each day, and then appear back in the same position _____ later.

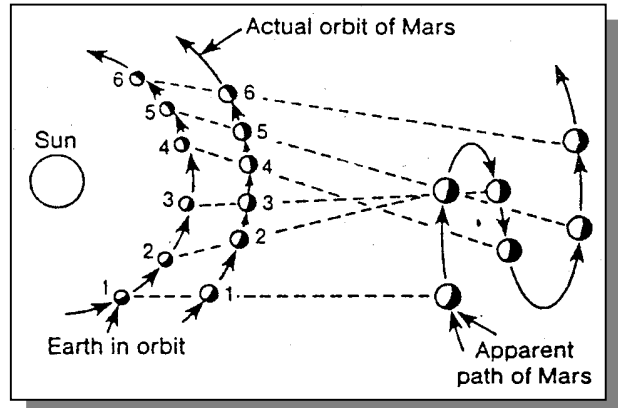


8. In the diagram at right, stars B and E rise in the _____ and set in the _____. Star _____ is a circumpolar star.
9. In the next diagram, which planet is closer to the Sun? _____
10. The closer a planet is to the Sun, the _____ it revolves in its orbit. The faster of these two planets is _____.
11. Sometimes, the planets appear to move to the west faster than the stars.



This "speed up," or retrograde motion, is caused by _____.

12. Sometimes the Moon looks larger, and sometimes it looks smaller, from Earth. The _____ diameters of planets and the Moon vary because _____.



13. An important example of evidence that the planets are rotating is _____.

Directions: 1) Fill in the chart below (the Sun's path in NYS) with the choices listed in the box below at left.
 2) Draw and label the paths of the Sun across the celestial sphere for the dates 3/21, 6/21 and 9/23 (12/21 is shown).

The SUN in New York State	Latitude receiving Direct Rays of Sun	Direction of Sunrise	Direction of Sunset	Altitude of Noon Sun	Period of Daylight
December 21					
March 21					
June 21					
September 23					

South of East	Longest Day of the Year	Due East	Highest Noon Sun of the Year	23.5°N – Tropic of Cancer
0° - Equator	Due West	Shortest Day of the Year	North of West	About 45°
Due West	12 Hours	23.5°S -Tropic of Capricorn	Due East	South of West
About 45°	North of East	12 Hours	Lowest Noon Sun of the Year	0° - Equator

