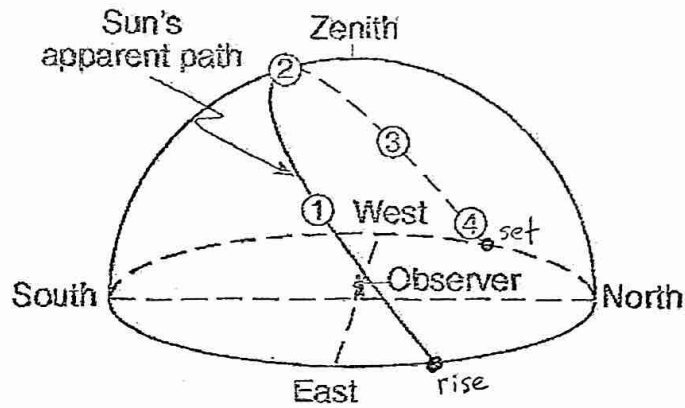


# CELESTIAL SPHERE PRACTICE WORKSHEET



1. During which day of the year is the Sun most likely to follow the apparent path shown above?  
\_\_\_\_\_

2. In what general compass direction does the sun rise on this day? \_\_\_\_\_

3. Which position represents the Sun at solar noon on this path? \_\_\_\_\_

4. The observer had the longest shadow when the Sun was at position \_\_\_\_\_ (sun lowest in sky)

5. The observer had the shortest shadow when the Sun was at position \_\_\_\_\_ (sun highest in sky)

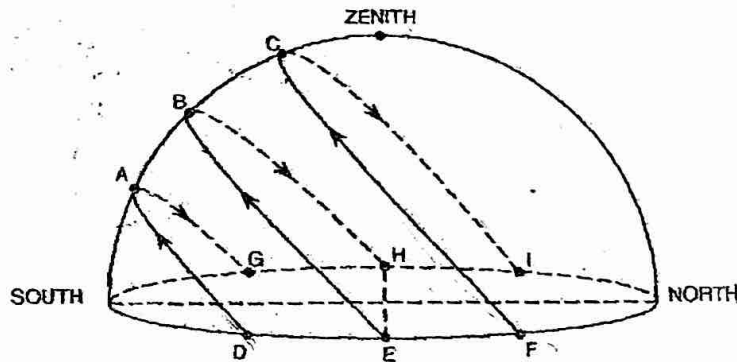
6. Draw two arrows on the path to indicate the path of the Sun's direction.

7. For this date which line of latitude has vertical Sun insolation \_\_\_\_\_

8. Which numbered position is the Sun at the highest angle of insolation? \_\_\_\_\_

9. Which motion of the Earth causes the apparent daily path of the Sun? \_\_\_\_\_

10. In three months time how many hours of daylight will occur at this location? \_\_\_\_\_



11. What is the total number of hours needed for the Sun to follow path EBH \_\_\_\_\_ FCI \_\_\_\_\_ DAG \_\_\_\_\_

12. Which point represents sunrise on the first day of winter? \_\_\_\_\_ fall/Spring \_\_\_\_\_ Summer \_\_\_\_\_

13. At which position does New York State experience the highest angle of insolation? \_\_\_\_\_

14. Which point represents sunset at due ~~east~~? \_\_\_\_\_ south of west? \_\_\_\_\_ north of west \_\_\_\_\_

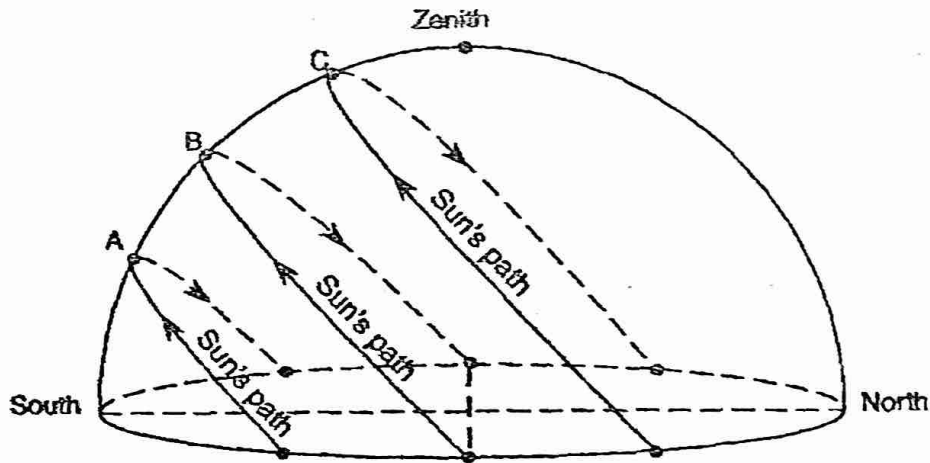
15. What are the two reasons for seasons? \_\_\_\_\_ and \_\_\_\_\_

16. Describe the change in shadow length as you travel from D to A \_\_\_\_\_ B to H \_\_\_\_\_

17. How would a shadow change in length from E to B to H?

Use the following diagram for the following questions

#18-21



18.) List the seasons for the following pathways

A \_\_\_\_\_ B \_\_\_\_\_ C \_\_\_\_\_

19.) In which direction does the sun rise on the first day of winter? \_\_\_\_\_

20.) Which pathway A, B, or C is the shortest? \_\_\_\_\_

21.) At which point A, B, or C is the angle of insolation the greatest? \_\_\_\_\_

22.) During which season are shadows the longest? \_\_\_\_\_

23.) Which season has the most indirect insolation? \_\_\_\_\_

24.) What is the difference between rotation and revolution?

25.) List five facts about rotation

26.) What are two causes of the seasons on Earth?

27.) If the tilt of the Earth should increase, how would the seasons be affected?

28.) If the tilt of the Earth should decrease, how would the seasons be affected?

29.) What celestial body is found directly over the axis of the Earth? \_\_\_\_\_

30.) How many degrees per hour do the stars rotate around Polaris? \_\_\_\_\_