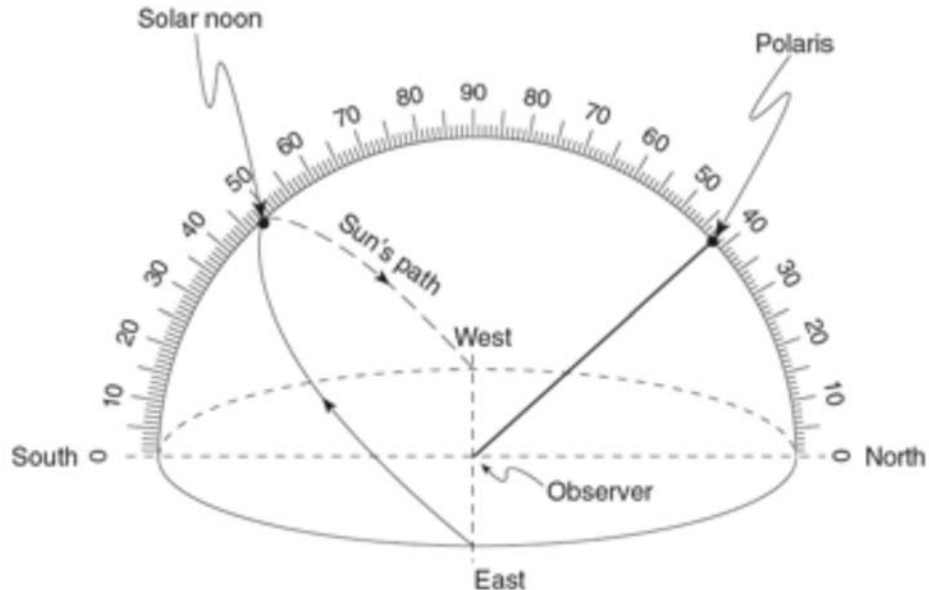


**Sun's Path and Altitude of Polaris**

1. What season is shown in the diagram above? FALL/SPRING
2. What is the altitude of the noon sun? 48
3. What direction would the noon shadow of the observer point? NORTH
4. What is the altitude of Polaris? 42
5. Name a city in NYS that would see Polaris at this altitude? ELMIRA
6. What would the altitude of the noon sun be in Summer? 71.5
7. What is the zenith? POINT DIRECTLY ABOVE OBSERVER
8. Does the noon sun ever reach the zenith in NYS? NO
9. Explain why the zenith is never reached in NYS. NY NOT IN THE TROPICS
10. What happens to the length of the shadow from sunrise to noon? DECREASES
11. What happens to the length of the shadow from noon to sunset? INCREASES
12. What season has the longest noon shadow? WINTER
13. What season has the greatest angle of insolation? SUMMER
14. What season has the shortest noon shadow? SUMMER
15. What season has the lowest angle of insolation? WINTER