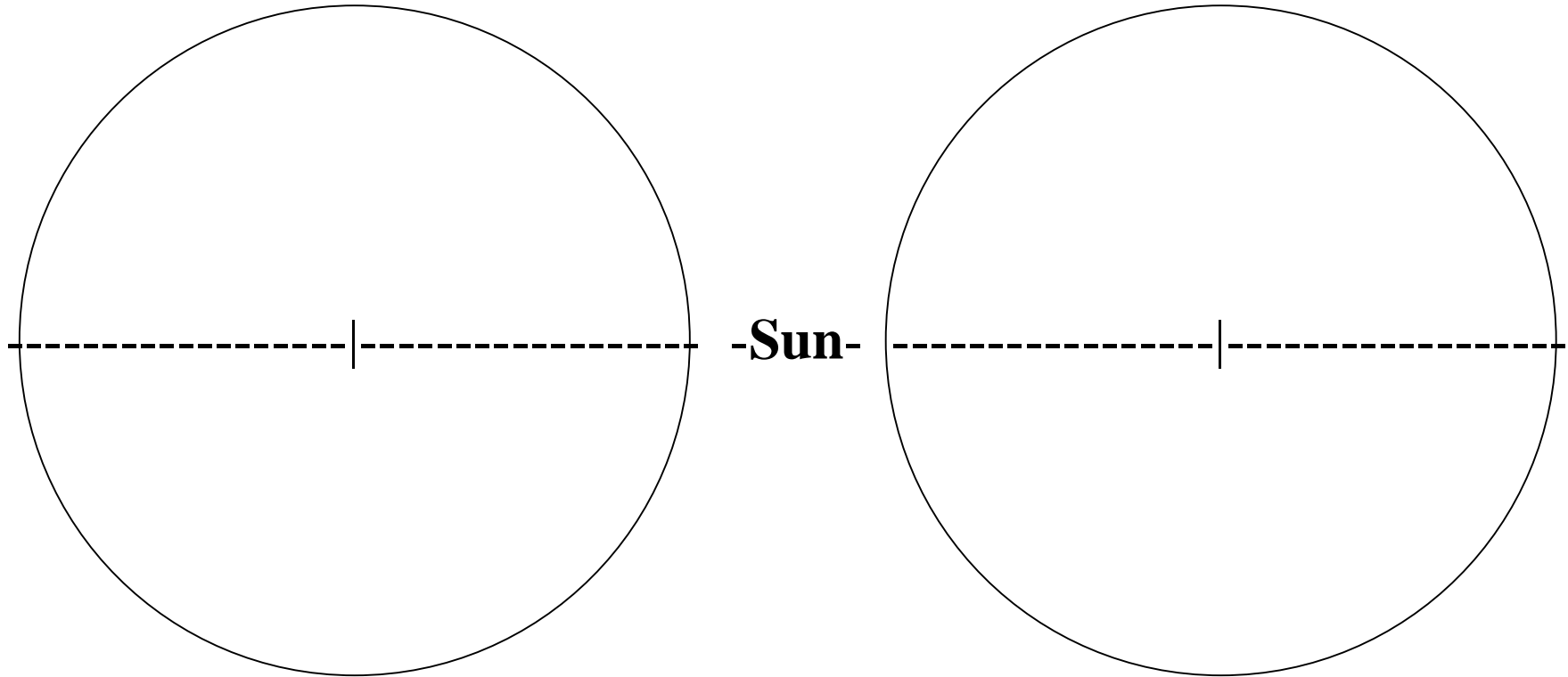


Geometry of the Seasons (12 points)



The Season is _____

The Season is _____

Complete this exercise **IN PENCIL** by **drawing, labeling, to both sides** and/or **answering** the following statements/questions accurately.

1. Sketch/label the ecliptic and perpendicular to the ecliptic for each Earth. (2)	6. Sketch/label Bethlehem's zenith position for both Earths. (1)
2. Draw/label for each Earth, the axis, tilted 23.5° from the perpendicular to the ecliptic. Indicate the 23.5° angle at the appropriate locations. (1)	7. Draw and label Bethlehem's north and south horizon positions for both Earths. (1)
3. Label the direction to Polaris (the North Star) for each Earth. (1)	8. Draw/label incoming rays of the sun at noon for Bethlehem on both Earths. LABEL WHICH EARTH REPRESENTS SUMMER/WINTER. (1)
4. For both Earths, draw/label the equator which is located 90° away from the Earth's axis. (1)	9. _____ Measure the SUMMER noontime sun angle for Bethlehem. Note this angle at the appropriate location above and on the drawing. (1)
5. Draw/label Bethlehem's 40° north latitude position to the equator for each Earth. Label Bethlehem's location on each Earth. (1)	10. _____ Measure the WINTER noontime sun angle for Bethlehem. Note this angle at the appropriate location above and on the drawing. (1)