APPARENT PATHS OF THE SUN*

Base your answers to the following questions on the **diagram** provided to you. The diagram represents the **apparent paths of the Sun** for the following dates: **September 23rd**, **December 21st**, **March 21st** and **June 21st**, for an observer located in **New York State**.

1. a) Identify the **dates** that each one of the Sun's paths represents. On the diagram, **label** each path with its date(s). (**Hint**: the two Equinoxes, **March 21st & September 23rd** share the same path. For **December 21st and June 21st** think of the altitude of the Sun/angle of insolation or the duration of insolation/# of hours of daylight previously learned).

b) **Explain** one way you were able to determine this. _____

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2. In which **direction**, would the observer in the diagram have to look in order to see the sun at **noon** (when the Sun is at its **highest position** along any of its paths), for any of the above mentioned dates?

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Dec. 21 path

3. From which **specific direction** does the sun appear to **rise**? _____ To **set**? _____

Mar 21 & Sep.23 paths

4. From which **specific direction** does the sun appear to **rise**? _____ To **set**? _____

June 21 path

5. From which **specific direction** does the sun appear to **rise**? _____ To **set**? _____

Shadows

The **higher** the altitude of the Sun is, the **shorter** the shadow of an object will be, while the **lower** the altitude of the Sun is, the **longer** the shadow of an object will be.

6. Determine the **path (date)** for which an object would cast:

a) the **longest shadow**. _____

b) the **shortest shadow**. _____

7. Determine the approximate **time of the day** (**select** from **sunrise**, **noon**, **sunset**) when an object would cast:

a) the **longest shadow**. _____

b) the **shortest shadow**. _____

APPARENT PATHS OF THE SUN DIAGRAM