Name:_____

<u>Observation Planning: How To</u>
Due Thursday

You can use the tool of your choice to do this. Some options are JSkyCalc, Astroplan, or iObserve. We explain with JSkyCalc below as an example

First, we are going to collect the information we need to determine observability. These include where, when, and what will you be observing.

We will be doing these initial calculations for observing from Apache Point Observatory.

1. What is the latitude & longitude of APO (in degrees)?

(Jskycalc uses Longitude in Hours. Conversation: 15 deg = 1 hour, 1 deg = 4 minutes)

2. Find the time for Sunset at APO on September 19th, 2022. (Note what tool you used to do so.) List the time in the local time zone, as well as in UT.

3. What will the sidereal time be at 11:30pm PDT September 19th, 2022?

4. What will the moon phase during that night?

5. When will the moon be up, on that night?

6. Do you think the moon will interfere with the observations? Why or why not?

Consider M91 and NGC 5866.

7. First, find the RA & DEC of both objects. (NASA/IPAC Extragalactic Database might be a good place to start). List them here.

8. Can either galaxy be observed from MRO on September 19th, 2022? If so, which one(s)?

9. We prefer objects with an airmass (during observation) of less than 1.5. Using this condition, when is/are your object(s) observable?

10. When will morning twilight begin to interfere with your observations? (The "Airmass Graphs" option might help with this)

11. When will the ideal day/season to observe each object and why?

12. We usually navigate in equatorial coordinates (RA & DEC) when planning observations and observing. However, sometimes other coordinate systems can be useful. Do we need to worry about the dust from the galactic plane when observing these objects? How do you know? (Hint: In jskycalc, use alt coordinates)