**ASTR 502 Homework 3 : Plotting the Moon activity**

(Due 10/12, 10 points) BUT START NOW) May be extended to November if September is cloudy.

1. (4 pt) Starting the day of the next new moon (that you discovered in HW1), look at the west after sunset (while it is still twilight).

What day is that? \_\_\_\_\_\_\_\_\_\_\_\_

Can you see the sliver of the new moon? \_\_\_\_\_\_\_\_\_.

What is the first day you can actually see the crescent moon? \_\_\_\_\_\_\_\_\_\_\_

What time of day? \_\_\_\_\_\_\_\_\_\_\_\_

Make a table with a sketch of the Moon every clear night you can for two weeks, at the

\***same time**\*.

Estimate the altitude and azimuth of the moon for each observation.

(Use the "rule of thumb" - a fist at arm's length is about ten degrees). Remember, zero azimuth is North, 90 is East, 180 is South and 270 is West.

If you don't get at least three observations, you can try again next month.

What night can you not see the moon at your chosen time? \_\_\_\_\_\_\_\_\_

When does it rise that night? \_\_\_\_\_\_\_\_\_\_\_\_

2. (2 pt) Do the "Sky Tonight" activity number 4 from: <http://www.spaceupdate.com/activities_spaceupdate.php#ST04> .

3. (4 pt) Do the "Sky Tonight" activity number 5 from [http://www.spaceupdate.com/activities\_spaceupdate.php#ST05.](http://www.spaceupdate.com/activities_spaceupdate.php#ST05)  Since Sky Tonight doesn't care if the sky is cloudy, you can do a full month (evening and morning).

Be sure to do the polar plots for both evening and morning **on the same graph**.

If you are having trouble figuring out the alt/azimuth using Sky Tonight, you can use Stellarium - be sure to mark what time of day you used.

Last updated 8/25/2021