Lab 2

The Motion of the Moon

Nightly observations between February 22 – March 6
Due in lecture March 10

The goal of this lab is to watch and chart the lunar motion. Starting on February 22 choose a ***regularly*** convenient time about an hour after sunset; 6:30 p.m. – 7:00 p.m. would be good. On each clear night, make an observation of the location in the sky of the moon with respect to landmarks on your horizon (e.g., Figure 1). You might also use Orion or the Pleiades cluster as landmarks (!) in the sky. Draw the moon on your sketch, taking care to record its shape properly. Be careful to mark the position of the moon with respect to the features on the horizon reasonably accurately, since you'll be watching the change of the moon's position in the sky.

Repeat this observation of the moon's position and shape on clear nights until March 6, ***being sure to make the observation at the same time each night.*** You should use the same sketch (i.e., the same piece of paper) each time, adding a drawing of the moon with each observation. Depending on how close to the horizon you can see from your site, you may not be able to see the moon on the first or last nights.

Try to be neat since you'll be making several observations. Record your observation on your sketch ***at the time of the observation*** – don't rely on memory. And draw what you see, not what you think you should see – if you draw what you actually see, you really can't get these labs "wrong"!

Turn in your sketch and answers to the questions below on **March 10**.

Questions:

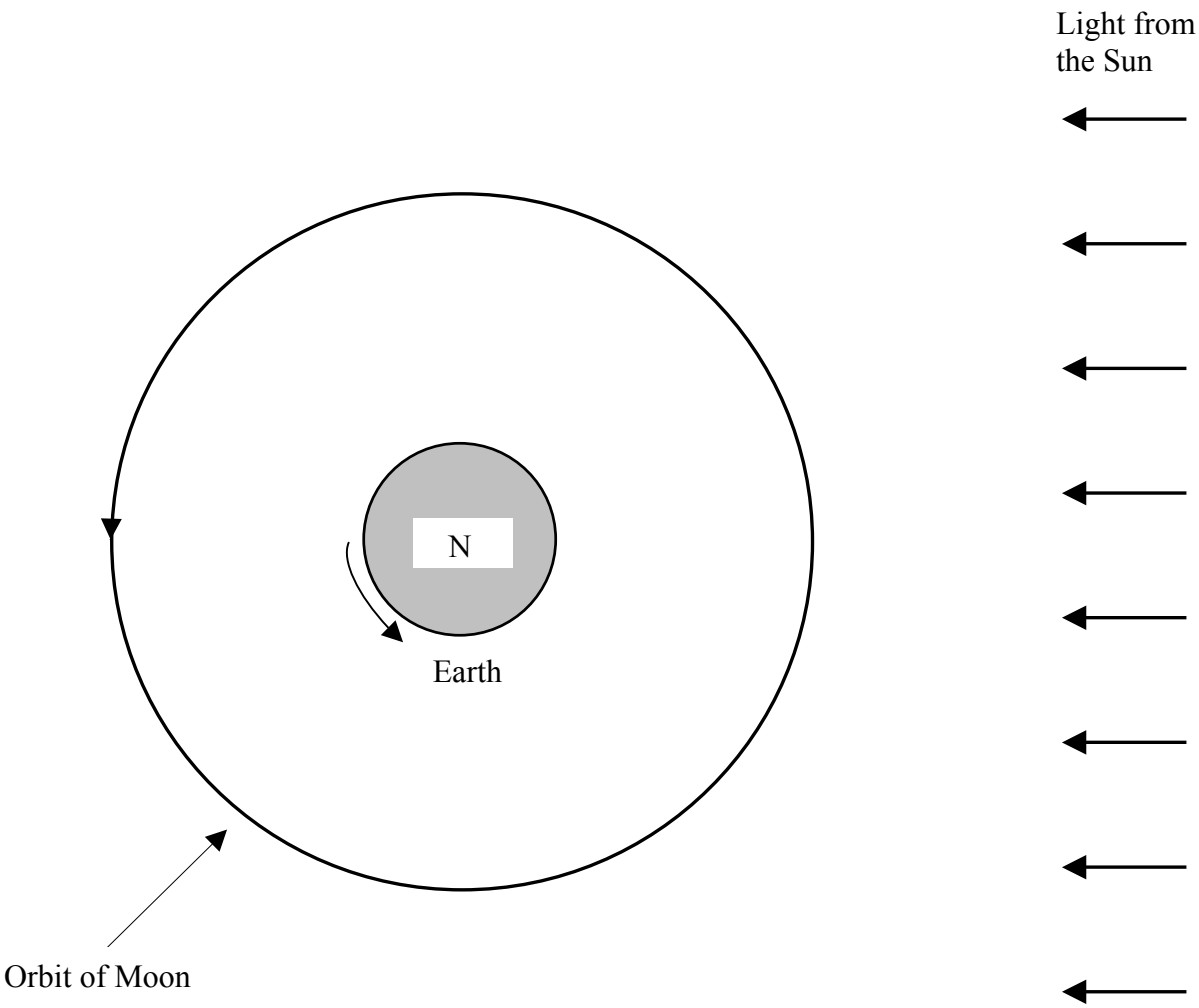
1) Choose any three observations, preferably distributed evenly thorough your two weeks of observing. Based on your observations, what were the phases of the moon on those dates?

2) On the figure on the back of this page (or a copy of it), show the locations of the moon with respect to the Earth and the Sun on those three dates. Also show where Madison is on the Earth at sunset when you make your observations.

3) Show on your sketch of the sky where in the sky the moon will be on March 28 at your regular observation time. By what argument have you made this prediction?

4) Why is it important that each observation be made at the same time each evening?

5) When I next teach Astronomy 104 in the Spring semester, will I be able to hand out this lab unchanged (including dates of observation)? What about Lab 1? Why or why not?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