AST 301
Homework #2
Due Friday Sep. 10

1. You should by now have made two observations of Venus, Mars and Spica. Make at least one more observation by Sep. 10. If you only succeed in getting out one or two nights, at least make two sketches on one night, to see how the planets move during a night.

Make these observations from a place where no buildings block your view to the west. Sketch the positions of Venus, Mars, and Spica, as well as some landmarks on the horizon. Write down the date and time, your location, the weather, and the names of any companions. Hand in your sketches.

If you saw Venus, but couldn't see Mars and Spica, say so. We want to know what you saw, not what SkyGazer said you should see. Answer as much of question 3 as you can, based on your observations.

2. Describe how the star and planets moved relative to each other from night to night. (Astronomers would normally say how the planets move relative to Spica, but you might find it more natural to describe the motion of Spica relative to the brighter Venus.) Describe how the three objects moved relative to landmarks on the horizon during a night or from night to night (if you made your observations at the same time each night).

3. Explain as much as you can of your observations, based on our heliocentric model of the solar system. Here are some questions you might be able to answer. You may not be able to answer all of them from your observations. Or maybe you observed other things that you could try to explain.
Say which way the planets moved relative to the stars. Is this prograde or retrograde motion? Is that what the model predicts?
Say which way Spica moved relative to the Sun (that is, which way it moved from night to night, at the same time of night). Is this what the model predicts?
How did all three objects move during a night? What causes that motion?