Homework Assignment 4 — Due Wednesday, October 10, 2007

Use the planetary data in Table 6.1 to answer each of the following. For full credit, explain your reasoning clearly. (No. 43 from p. 181 of the text.)

1. Notice the relationship between distance from the Sun and planetary surface temperature. Describe the trend, explain why it exists, and explain any notable exceptions to the trend.

2. Describe in general how the columns for density, composition, and distance from the Sun support the classification of the planets as either terrestrial or jovian.

3. Describe the trend in orbital periods, and explain this trend in terms of Kepler’s laws.

4. Which column of data would you use to decide which planet has the shortest days? Do you see any notable differences in the length of the day for the different types of planet? Explain.

5. Which planets would you expect not to have seasons? Why?