

CH 4

Review Questions 4-9 (DUE 1/22)

4. Why did Copernicus have to keep small epicycles in his model?
5. Explain how each of Galileo's telescopic discoveries contradicted the Ptolemaic theory.
6. Galileo was condemned, but Kepler, also a Copernican, was not. Why not?
7. When Tycho observed the new star of 1572, he could detect no parallax. Why did that result undermine belief in the Ptolemaic system?
8. Does Tycho's model of the universe explain the phases of Venus that Galileo observed? Why or why not?
9. How do the first two of Kepler's three laws overthrow one of the basic beliefs of classical astronomy?

Problems 1-2, 5-7 (DUE 1/22)

1. Draw and label a diagram of the eastern horizon from northeast to southeast and label the rising point of the sun at the solstices and equinoxes.
2. If you lived on Mars,
 - a) Which planets would exhibit retrograde motion?
 - b) Which would never be visible as crescent phases?
5. If a planet has an average distance from the sun of 4 AU, what is its orbital period?
6. If a space probe is sent into an orbit around the sun that brings it as close as 0.5 AU and as far away as 5.5 AU, what will be its *average* period?
7. Pluto orbits the sun with a period of 247.7 years. What is its average distance from the sun?