**NAME** _____

## ASTR109/PHYS109:  2008

# HOMEWORK  #6

### Due 1.00 pm, Thursday 18 September 2008

*Bring to lecture or tutorial or leave with Rosalie in room 705, Physics and Astronomy*

**These questions are based on topics covered in lectures. Any additional material is welcome.**

**1**. Write an account of the evidence that peoples had (about 200-500 BC) that the Earth's surface was not flat but curved.

**2**. Explain how the distance of the Moon was measured by Aristarcus about 200 BC (for simplification assume that the Sun's rays at the Earth are parallel).

Illustrate your description by showing how to calculate the distance of the Moon assuming that the diameter of the Earth's shadow at the Moon is larger than the Moon's diameter by a factor of 3.5; that the Earth's physical diameter is 12,000 km and that the Moon has an angular diameter of ½ degree.

**3**. In the two and a half millenia before our present understanding of the solar system—the motions of the sun, earth, moon, and planets—there were various models proposed.
   (a) Outline the models of Ptolemy (~ 150 AD) and Copernicus (~ 1540 AD).
   (b) For each model describe how Jupiter behaves (Jupiter's period about the Sun is about12 Earth years).