

# ASTRONOMY 020

Problem Set #6

Due: October 31, 2003

1. Zeilik & Gregory, Chapter 4, problem 1.
2. Zeilik & Gregory, Chapter 4, problem 16.
3. Zeilik & Gregory, Chapter 8, problem 1, part (a) only.
4. Zeilik & Gregory, Chapter 8, problem 2, part (a) only.
5. Zeilik & Gregory, Chapter 8, problem 3, part (a) only.

Practice problems:

1. Zeilik & Gregory, Chapter 4, problem 3.  
Answer: The solar gravitational attraction on the Moon at inferior conjunction is  $4.0 \times 10^{18}$  N greater than at opposition, which corresponds to a difference of 2% of the Earth's gravitational attraction on the Moon. This causes the Moon's orbit to be a non-perfect ellipse.
2. Why do the Sun and Moon appear larger when near the horizon than when they are high in the sky?  
Answer: see [www.physics.uwo.ca/everyday-physics/](http://www.physics.uwo.ca/everyday-physics/)