ASTR450 Homework # 3 – Central Force Motion
Due Tuesday, February 25

Reading: Start Danby's Chapter 6.

1. Danby: Page 82, Problem 8. Draw a picture of the elliptical orbit and label the semimajor axis, semiminor axis and latus rectum.

2. Danby: Page 84, Problem 10. Under what conditions will the future orbit be a circle? An ellipse? A parabola? A hyperbola?

3. Danby: Page 84, Problem 14.

4. Danby: Page 85, Problem 25. Use the Central Force Integrator to determine numerically what happens to each of the six cases when the force law is changed to $r^{-2.9}$.

5. Danby: Page 86, Problem 31. Sketch the orbit for several different values of a.