Your Name_____Section_____

HOMEWORK #11 - 8.01 MIT - Prof. Kowalski

Due 4:00PM Thursday Nov. 20, 2003

Topics: Universal Gravity

Any following problems designated with a bold number indicate problems from Young and Freedman 11th edition.

Note: It may help to do some of the Mastering Physics assignment #12 on Universal Gravitation and Oscillators before doing some of these problems.

1. **12.23** Hint: Calculate the orbiting speed first and picture what would happen if you started to walk slowly, gradually speeding up.
   b) You could escape by jumping straight up. On earth, a person's jumping ability is measured by their "vertical leap" – the distance their c of m rises after they jump. What vertical leap on earth corresponds to escape velocity on Dactyl?
2. **12.24**
3. **12.46**
4. **12.68**
   e) How many times as much energy (as your answer to part d) is required to actually make this payload dock smoothly with the space station?
5. **12.70**