Phys 320 Assignment 3, due before midnight Wed Sept 16

Questions to be answered include 9 book problems and 1 supplementary problem. Hints are given for some problems.

1. Book problems 2.5, 2.6, 2.7, 2.8, 2.17, 2.27, 2.31, 2.38, 2.40.

2. Supplemental problem: graph equation (2.33) for \( v = 0 \) to \( v = 0.99v_{ter} \).

   - P2.38 - remember to work in radians when inverting trig ratios
   - For P2.38 and P2.40, it helps to use an integral solved on the inside cover of the book, or use Mathematica’s on-line integrator, http://integrals.wolfram.com. The answer to P2.38 (a) is
     \[
     v = v_{ter} \tan \left[ \arctan \left( \frac{v_0}{v_{ter}} \right) - \frac{gt}{v_{ter}} \right]
     \]

Grading

- You can share concepts, but all work must be completely original
- Write neatly and legibly
- Line up equal signs in a straight vertical column, and never have more than one equal sign on a line
- Define all non-standard variables
- Do not skip essential lines of algebra
- Develop ideas logically from start to finish
- Include a statement at the end of each problem interpreting the result
- Label your diagrams; all plots must be computer plots
- Take pride in your work
- All assignments are weighted equally