Physics 151 Reading Assignment for June 10 Sections 2.6 and 2.7

Please notice that this file is two pages long.

2.6 Solving One-Dimensional Motion Problems

- This is one of the most challenging aspects of physics. Read carefully and go over the examples. We'll augment this with as many examples as possible in lecture.
- The very first sentence says a lot - you have to translate the words in a problem into the symbols that are in our equations.
- A good physics picture includes:
  - A sketch showing the object at the beginning and the end of the problem
  - Establishing your coordinate system - this gives you your zero values, as well as, positive and negative values
  - Defining your symbols - both known and unknown
- In solving, *i.e.*, figuring out which equation to use - look for the equation with the fewest number of unknown variables
- It does make sense to think about whether your answer makes sense

2.7 Free Fall

- Free fall is our most common example of constant-acceleration motion, so this is mostly more problem solving
- Your book likes the term free-fall acceleration. I'll probably call it the acceleration due to gravity since that's what I was taught many years ago

- g is the *magnitude* of the free-fall acceleration. It is always positive
- $g = 9.8\,m/s^2$ on earth. On other planets or the moon, its value is different
- It is your job to determine when the *acceleration* is negative