NOTES FOR THE FIRST HOUR EXAM

This first hour exam will be given in the normal classroom on Thursday, 17 September. You will have the entire class period to complete the exam. Remember that all electronic devices (calculators, cell phones, et al.) must be stored out of sight prior to the start of the exam. The exam will be constructed such that you will not need the use of calculators.

The exam will cover all material done in class and/or assigned for reading. This will be the material from Chapter 1 through however far we get in Chapter 4 (I will be explicit in class Tuesday about the limits of coverage for the exam).

You will not need to memorize any equations; I will provide a list of equations and useful results. Everything you need to solve the questions on the exam should be on this list; if you think anything is missing, ask me during the exam and I will provide it (unless you are asking for the answer to a question, of course).

On the exam, you should be able to :

• Construct and intepret graphs of position, displacement, velocity, acceleration vs. time

• Find the instantaneous values of velocity and acceleration graphically and using the techniques of differential calculus

• derive the equations of motion from basic definitions

• derive results based on the basic kinematic equations (homework question 3 from assignment two is an example of this)

• show the ability to decompose vectors and to determine the magnitude and orientation of resultant vectors

• set up and solve one dimensional and two dimensional kinematics problems

• derive equations of projectile motion from the equations of motion

Any problems requiring numerical solutions will either use sufficiently simple numbers so that calculators will not be required, or you will be asked only to set up the equations, which when solved, will yield the correct numerical answer. In all problems requiring numerical solution, you must use proper units throughout the calculation. You must show complete work in all problems; no work = no credit.