HW#7; Phys 263; Due Wed. 4/12

1. Problem 9.4 part a) only. (read through b for your edification.)

2. Problem 9.6. The first part of this was done in class (to first order). You should **read** problem 9.2 to see what this really amounts to, but no need to do that earlier problem or to compare the answers. Be sure to assume that the state starts in state "a" with 100% certainty, as in Problem 9.2. No need to compare to exact answer.

3. Problem 9.7. Hints: You have two first order differential equations than can be combined into a single second order differential equation (eliminate c_a, keep c_b.) Then assume c_b looks like an exponential function of time, exp(gt). Note that if you get two roots, (say, g and g') the solution will be a sum of both possibilities:

c_b = A exp(gt) + B exp(g't)

Don't forget to use your initial condition!