Math 46 Homework 3
Due April 19 at the beginning of class

(1) Page 101 # 7. You will have to use unusual powers of ϵ. See the worksheet for an example.
(2) Page 103 # 14. [Hint: look back to # 4] You **do not** have to find the exact solution.
(3) Page 103 # 16. This should be a fun and quick problem since little algebra needed. To answer the last part of the question, please state the error with respect to the ODE that is satisfied (i.e. , $F(t, y, y', y'', \epsilon) := y'' - \epsilon ty$).
(4) Page 111 # 1 parts b,c.
(5) Page 112 # 2. Remember there are 3 roots.
(6) Page 121 # 1. a (easy, follow recipe), h (quick but weird. Please explain what is going on), i. [Hint: For all these questions first make sure you know, and state, where (and if) there is a boundary layer. A sketch is often helpful.]
(7) Page 121 # 2 This is easy but very insightful problem.
(8) Page 122 # 3. You do not need to write the uniform approximation. Please do explain what goes wrong to cause the usual boundary layer method to fail.
(9) Page 122 # 4. Please sketch the solution.