Exam II Bonus

PROBLEM 1: (3pts) Show the values of the V, M, θ, and u curves at each of the following points using the equations generated in the 1c. Verify these values using the superposition technique.

- a. Values at the intersections of each region of the beam (where the loads change).
- b. All maximum, minimum, and points of inflections on the curves.
- c. Locations of all intercepts.

PROBLEM 2: (3pts) Draw Mohr's circle for strain to scale. Be sure to place all dimensions on the drawing and illustrate the two circles used to calculate the principal strains. Calculate the maximum shear stress in the vessel (assume the through the thickness stress to be zero).

PROBLEM 3: (3pts) Calculate the shear stress distribution throughout the beam, calculate the shear forces in each section and show that the forces are in equilibrium.