

2.094
FINITE ELEMENT ANALYSIS OF SOLIDS AND FLUIDS
SPRING 2008

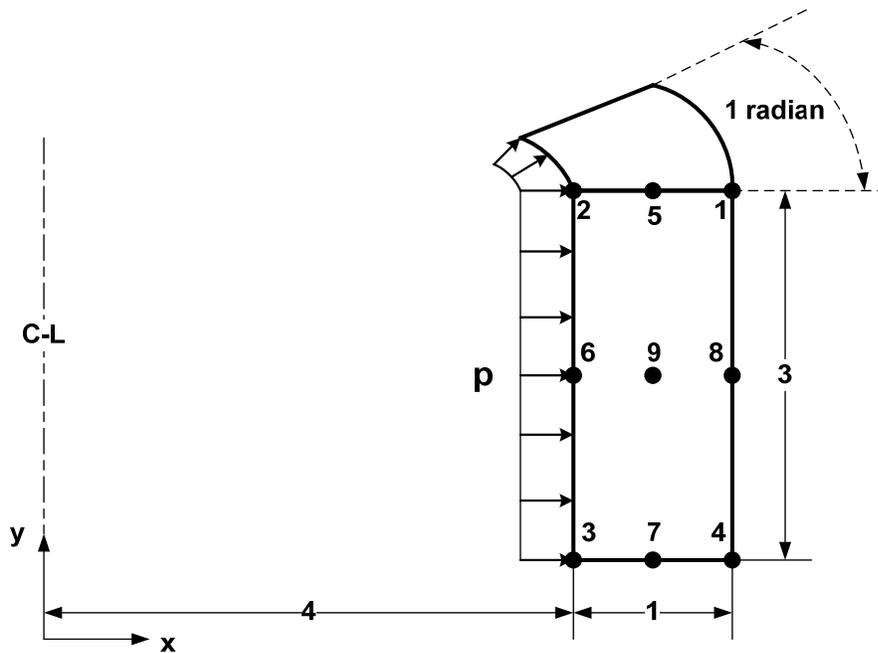
Quiz #1

Instructor: Prof. K. J. Bathe

Date: 04/01/2008

Problem 1 (10 points)

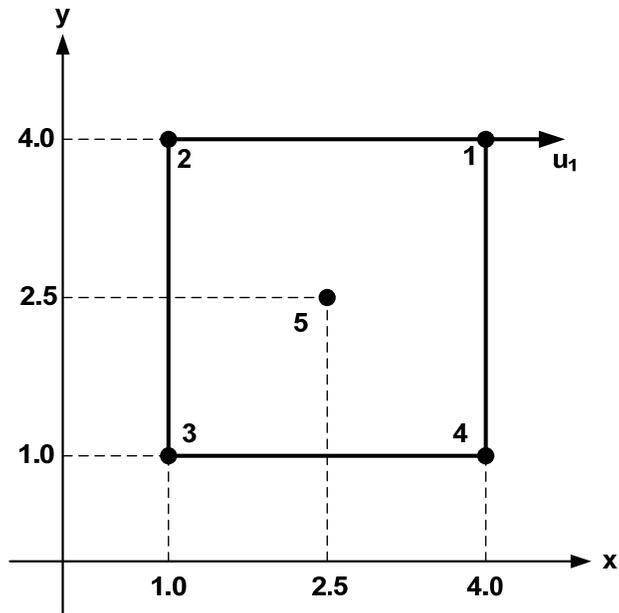
Calculate the nodal point forces corresponding to the surface loading on the axisymmetric element shown (consider 1 radian). However, do not perform the final integration.



Problem 2 (10 points)

Consider the 5/1 u/p plane strain element shown.

- (a) Evaluate all interpolation functions for displacements and pressure.
- (b) Evaluate the columns in the strain-displacement matrices \underline{B}_D and \underline{B}_V corresponding to the displacement u_1 shown in the figure.



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