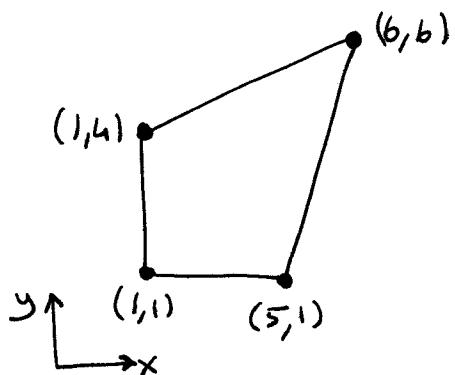
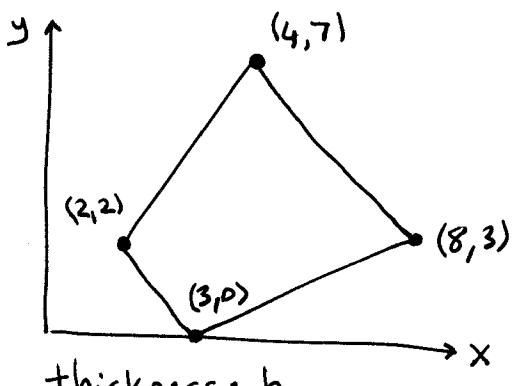


1)



The (x, y) coordinates of each node are given for a four-node quadrilateral as shown.
Obtain the isoparametric element in (ξ, η) coordinates.

2)



thickness: h
 E, ν are known

For a quadrilateral element first obtain the isoparametric form and find stiffness for this plate element under stretching.

3)

Calculate the value of

$$\iiint_{-3 \ 2 \ 0}^{6 \ 5 \ 1} (x^2yz + yz^2 + 2xyz) dx dy dz$$

by using Gauss integration.