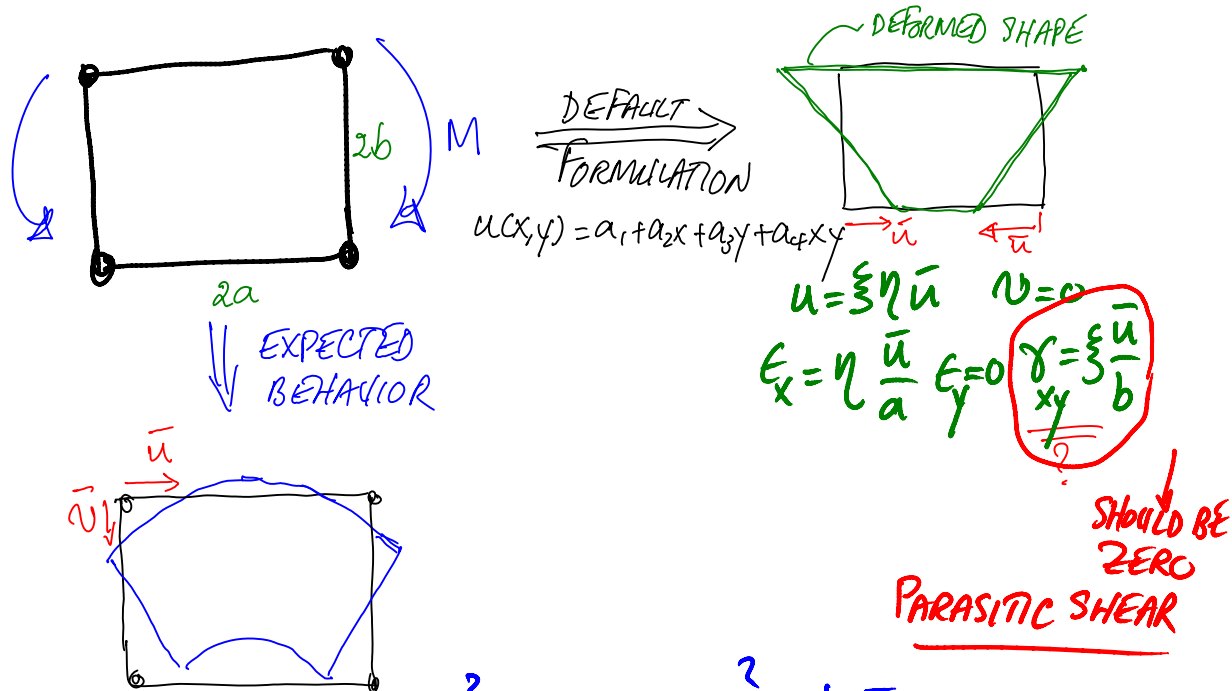


Q-4 ELEMENT UNDER PURE BENDING:



$$u = \xi \eta \bar{u} \quad v = (1 - \xi)^2 \frac{a}{2b} \bar{u} + (1 - \eta)^2 \frac{b}{2a} \bar{u} \quad \nu \text{ Poisson's RATIO}$$

$$\epsilon_x = \eta \frac{\bar{u}}{a} \quad \epsilon_y = -\nu \eta \frac{\bar{u}}{b} \quad \gamma_{xy} = 0$$

$$u = \sum N_i \cdot u_i + (1 - \xi)^2 C_1 + (1 - \eta)^2 C_2$$

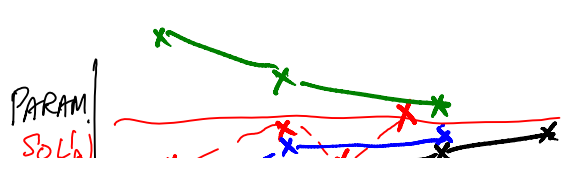
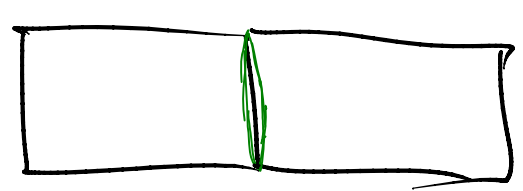
$$v = \sum N_i \cdot v_i + (1 - \xi)^2 C_3 + (1 - \eta)^2 C_4$$

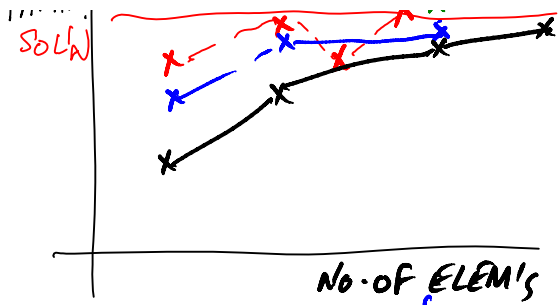
C_i 's ARE NODELESS D.O.F.'s (INTERNAL D.O.F.'s)
DO NOT ADD TO THE NODE NUMBERS

Q-6 ELEMENT FORMULATION (Q-6 INCOMPATIBLE ELEMENT)

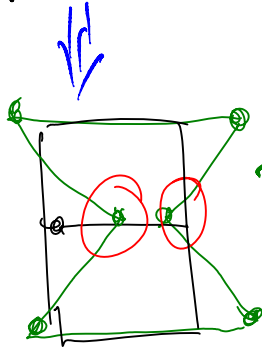
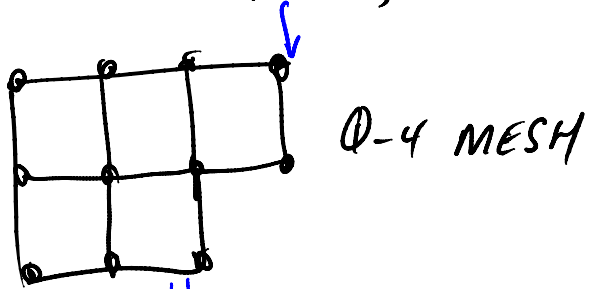
ADVANTAGES :

- 1) REMOVES PARASITIC SHEAR
 - 2) PROVIDES FOR LESS STIFF ELEMENT BEHAVIOR
- ALSO NOTE THIS :
- 3) MAY PRODUCE "CONVERGENCE FROM ABOVE" BEHAVIOR





- FROM ABOVE OBSERVATION
- CST
 - Q-4
 - Q-6



~ HOUR-GLASS MODE
NOT CORRECT BEHAVIOR