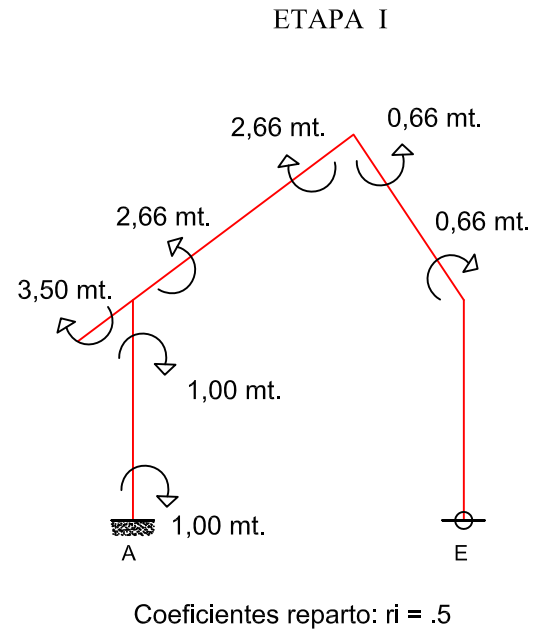
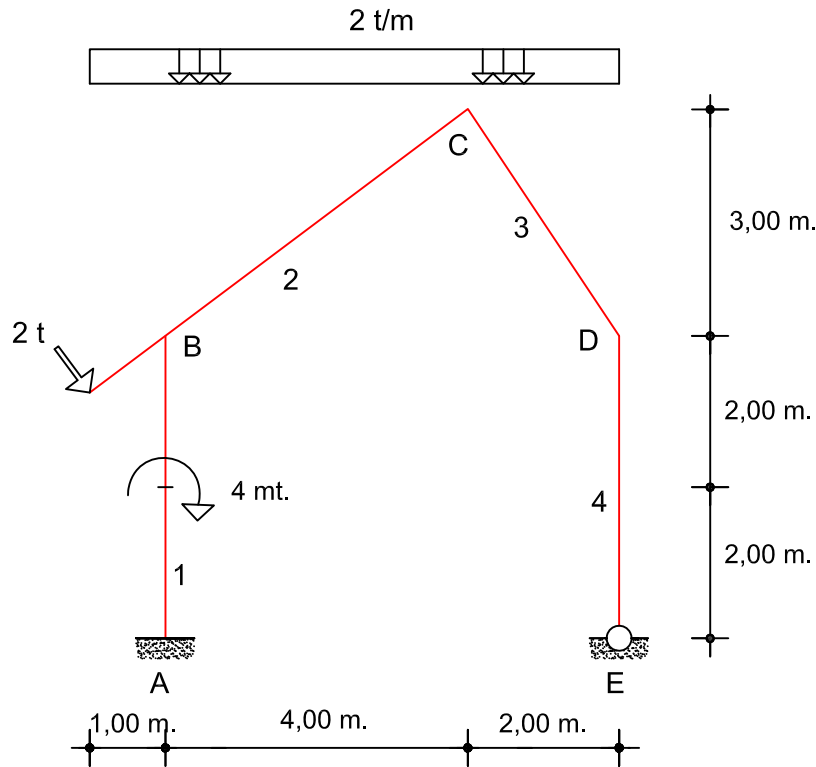




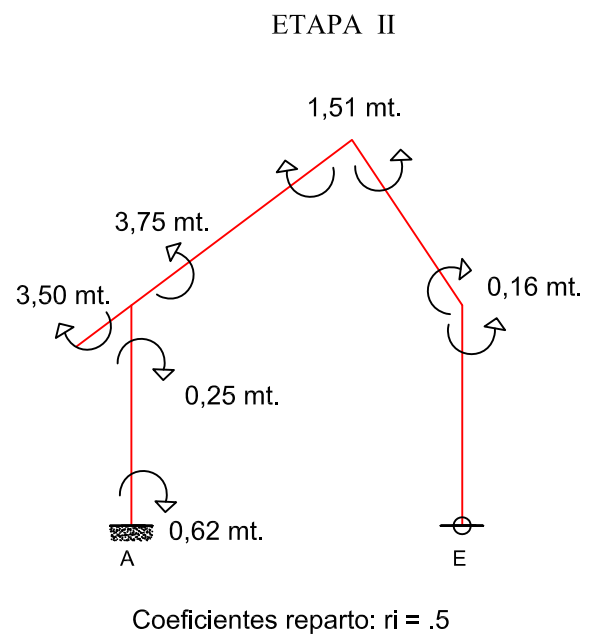
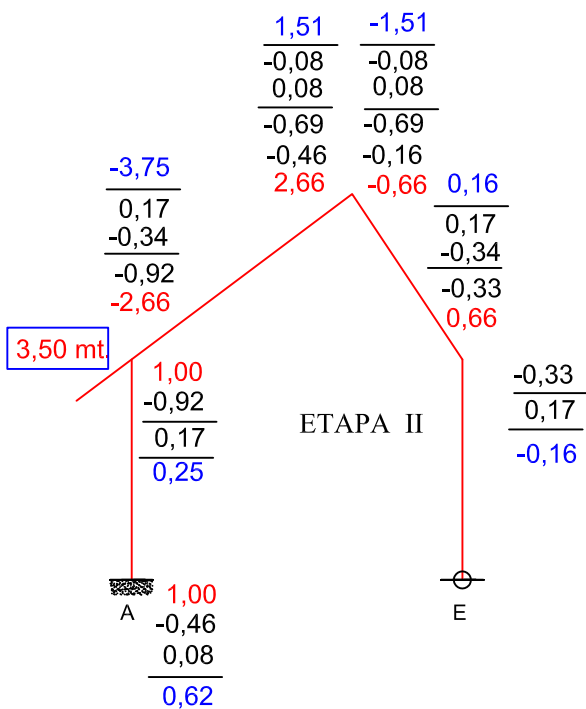
ESCUELA UNIVERSITARIA DE ARQUITECTURA TÉCNICA  
 Dpto. "TECNOLOGÍA DE LA EDIFICACIÓN"  
 (223) ESTRUCTURAS DE EDIFICACIÓN II  
 EJERCICIOS MÉTODO DE CROSS

Utilizando el Método de Cross, obtener las solicitaciones y dibujar los diagramas a escala

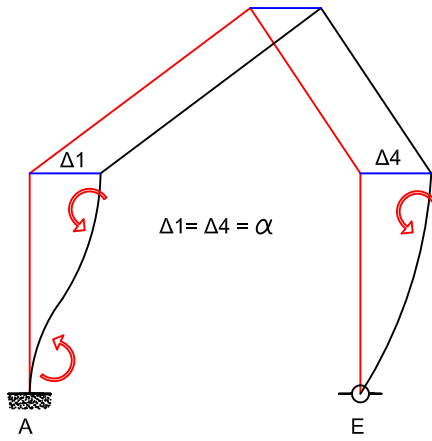
RIGIDEZ DE TODAS LAS BARRAS:  $K_i = 1EI$



GT: 2



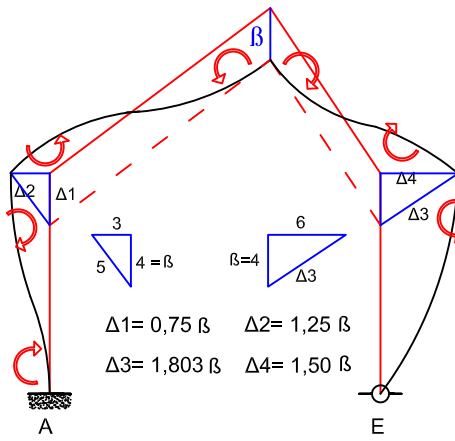
ETAPA III  $\alpha$



$$M1 = -1,5 K1 * \Delta1/L1 = -1,5 * 1 * \alpha / 4 = -0,375 = -37,50 \alpha$$

$$M4 = -1 K4 * \Delta4/L4 = -1 * 1 * \alpha / 4 = -0,250 = -25,00 \alpha$$

ETAPA III  $\beta$

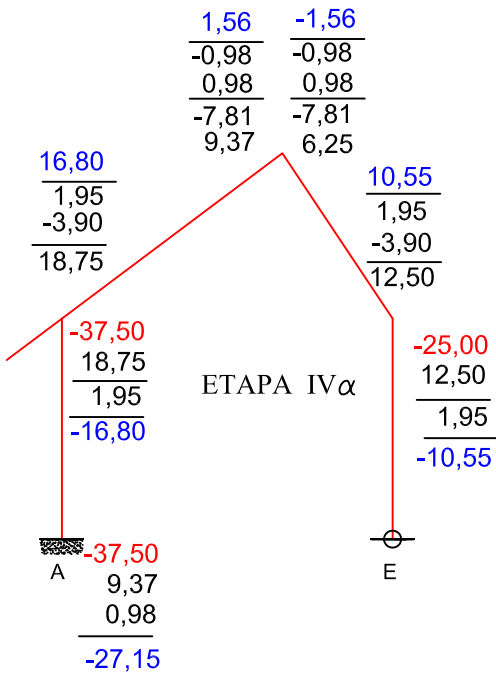


$$M1 = 1,5 K1 * \Delta1/L1 = 1,5 * 1 * 0,75 \beta / 4 = 0,375 = 28,125 \beta$$

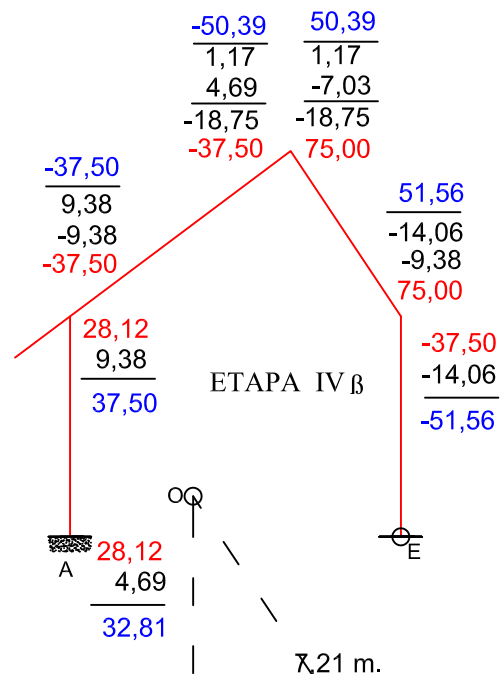
$$M2 = -1,5 K2 * \Delta2/L2 = -1,5 * 1 * 1,25 \beta / 5 = -0,300 = -37,500 \beta$$

$$M3 = 1,5 K3 * \Delta3/L3 = 1,5 * 1 * 1,803 \beta / \sqrt{13} = -0,750 = 75,000 \beta$$

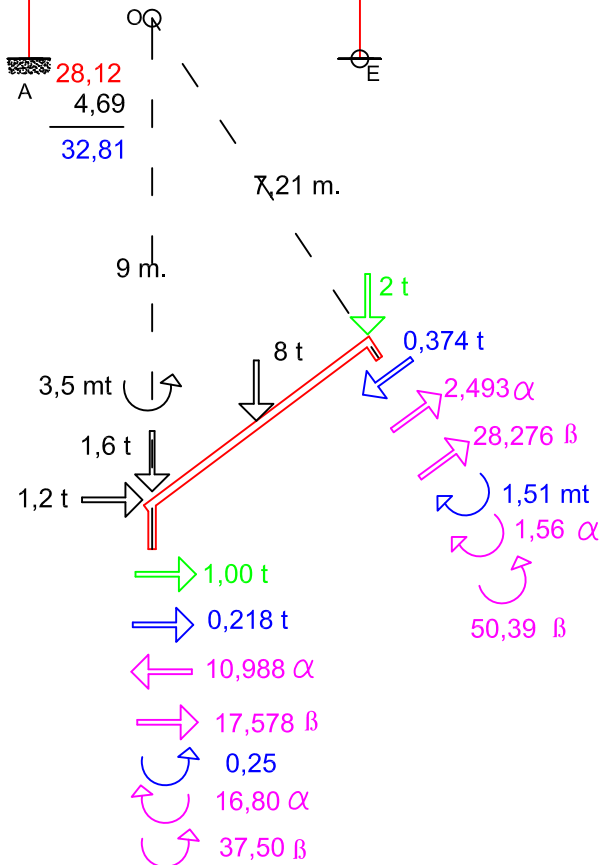
$$M4 = -1 K4 * \Delta4/L4 = -1 * 1 * 1,50 \beta / 4 = -0,375 = -37,50 \beta$$



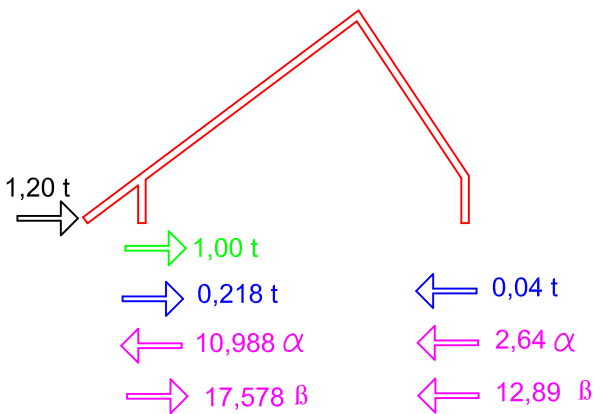
ETAPA IV  $\alpha$



ETAPA IV  $\beta$



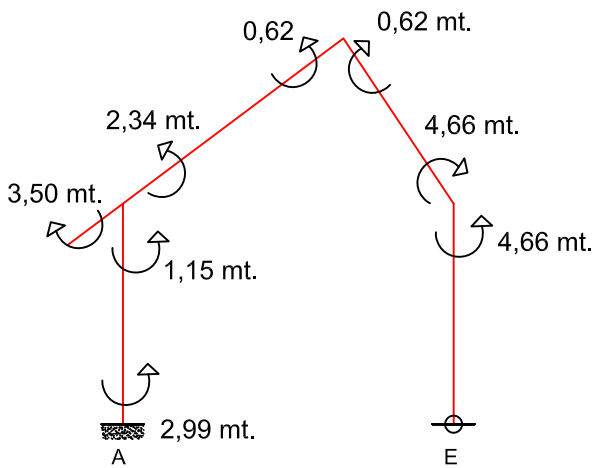
ETAPA V



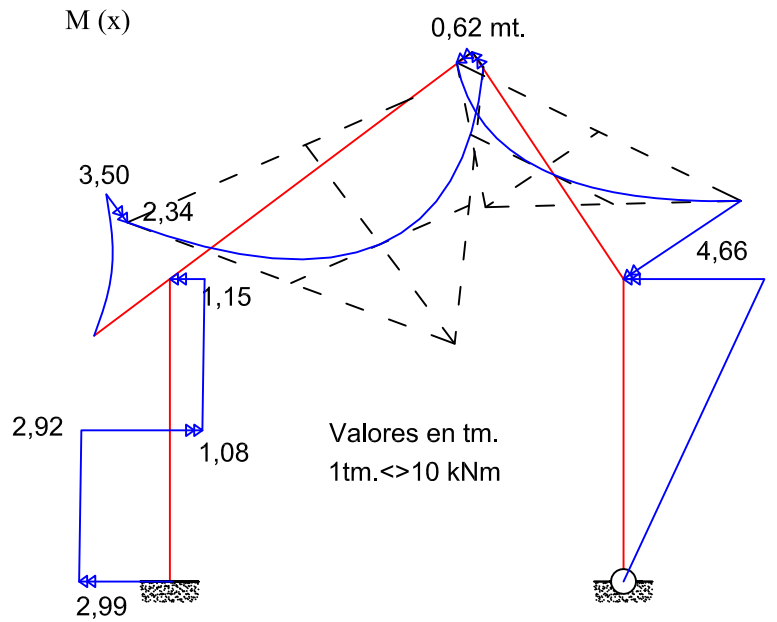
$$\alpha = 0,19054288...$$

$$\beta = 0,04813923...$$

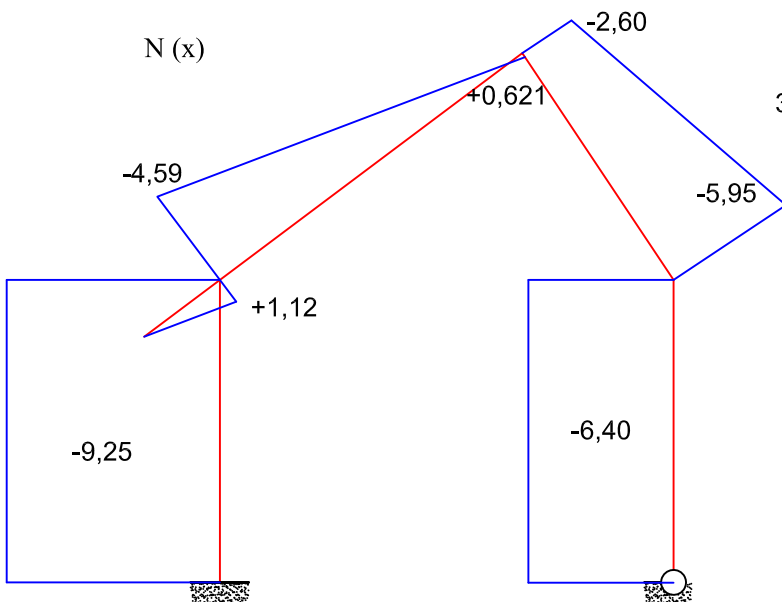
Momentos Cross



M (x)



N (x)



V (x)

