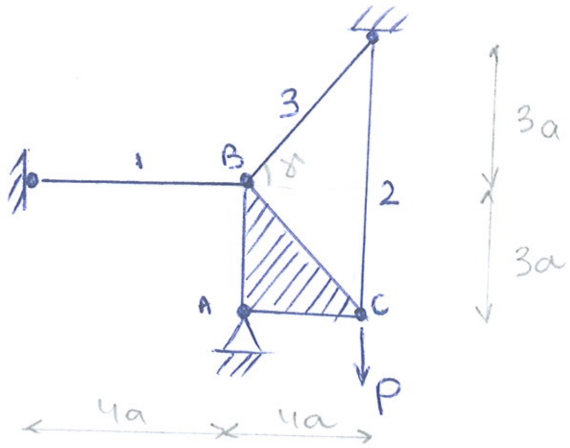
GABRIELA N. KALLEDER 9832874



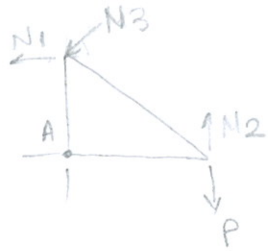
1,2,3: EA

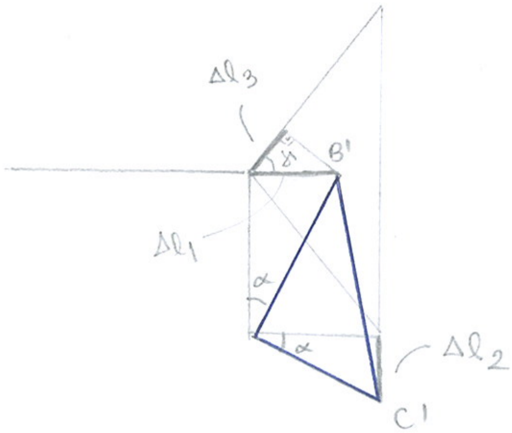
$\sin\gamma = \frac{3}{5}$

$\cos\gamma = \frac{4}{5}$

GH = 2

equilíbrio de ABC: $\Sigma M_A = 0$:





$N1 \cdot 3a + N3 \cdot \cos\gamma \cdot 3a + N2 \cdot 4a - P \cdot 4a = 0$

$3N1 + \frac{12}{5}N3 + 4N2 - 4P = 0$ (I)

compatibilidade:

$\frac{\Delta l1}{3a} = \frac{\Delta l2}{4a} \rightarrow \Delta l1 = \frac{3\Delta l2}{4} \rightarrow \frac{N1 \cdot 4a}{EA} = \frac{3}{4} \cdot \frac{N2 \cdot 6a}{EA} \rightarrow N2 = \frac{8}{9}N1$ (II)

$\cos\gamma = \frac{\Delta l3}{\Delta l1} \rightarrow \Delta l1 = \frac{\Delta l3}{\cos\gamma} \rightarrow \Delta l1 = \frac{5\Delta l3}{4} \rightarrow \frac{N1 \cdot 4a}{EA} = \frac{5}{4} \cdot \frac{N3 \cdot 5a}{EA} \rightarrow N3 = \frac{16}{25}N1$ (III)

de I, II e III: $3N1 + \frac{12}{5} \cdot \frac{16N1}{25} + 4 \cdot \frac{8}{9}N1 - 4P = 0$

$(3 + 1{,}536 + 3{,}56)\, N1 = 4P \rightarrow N1 = \frac{4}{8{,}1}P = 0{,}49P$ (T)

$N2 = \frac{8 \cdot 0{,}49P}{9} = 0{,}43P$ (T)

$N3 = \frac{16}{25} \cdot 0{,}49P = 0{,}31P$ (C)