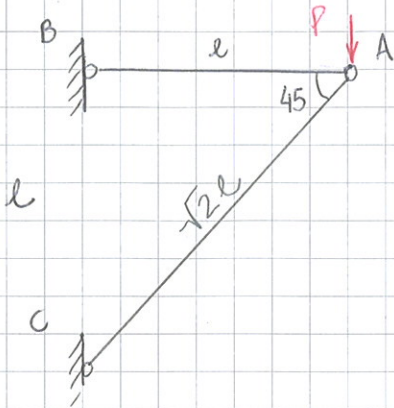
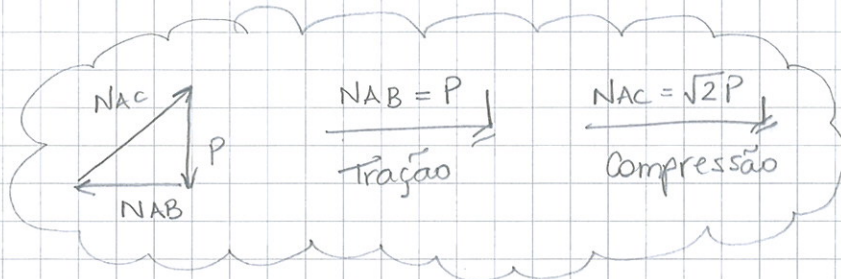
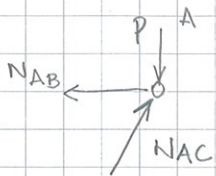


Exercício 3 Deslocamento de A?  $u_A = ?$   $v_A = ?$

$EA = cl$



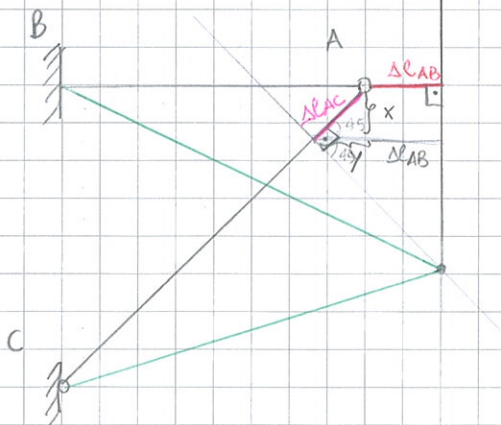
Equilíbrio:



Pesos em equilíbrio

$$\Delta l_{AB} = \frac{N_{AB} \cdot l_{AB}}{EA} = \frac{Pl}{EA} \downarrow$$

$$\Delta l_{AC} = \frac{N_{AC} \cdot l_{AC}}{EA} = \frac{2Pl}{EA} \downarrow$$



$$u_A = \Delta l_{AB}$$

$$u_A = \frac{N_{AB} \cdot l_{AB}}{EA}$$

$$u_A = \frac{Pl}{EA} \downarrow$$

$$\sin 45 = \frac{x}{\Delta l_{AC}}$$

$$x = \frac{\sqrt{2}}{2} \Delta l_{AC}$$

$$\cos 45 = \frac{y}{\Delta l_{AC}}$$

$$y = \frac{\sqrt{2}}{2} \Delta l_{AC}$$

$$v_A = y + \Delta l_{AB} + x$$

$$v_A = \frac{\sqrt{2}}{2} \cdot \frac{2Pl}{EA} + \frac{Pl}{EA} + \frac{\sqrt{2}}{2} \cdot \frac{Pl}{EA}$$

$$v_A = \frac{2\sqrt{2}Pl}{EA} + \frac{Pl}{EA} \Rightarrow v_A = (2\sqrt{2} + 1) \frac{Pl}{EA} \downarrow$$