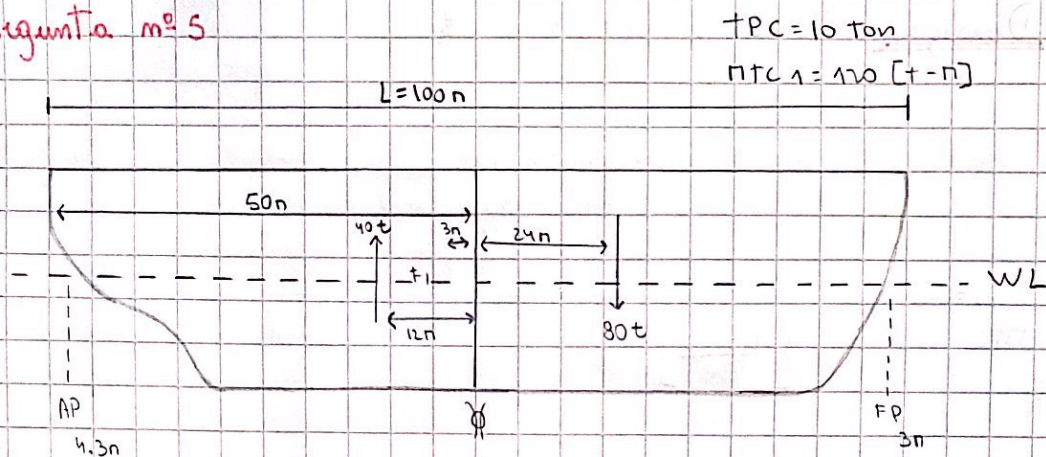


• Pregunta nº 5



$$\text{Hundimiento paralelo} = \frac{w}{\tau_{PC}} = \frac{80 (t/m)}{10 (ton)} = 8 \text{ cm} = 0,08 [m]$$

$$\text{Cambio oriento} = \frac{\int \text{cambio oriento}}{\eta_{TC} \text{ 1m}}$$

$$\text{momento c oriento} = \frac{80 (ton) \cdot 24 (m)}{120 (t-m)} = 18 [cm] \approx 0,18 (m)$$

• Carga: 80 Ton $\approx$ 24 m

$$\text{Cambio de calado a popa: } \frac{l}{L} \cdot \text{cambio oriento} = \frac{74 (m)}{100 (m)} \cdot 18 [cm] = 13,32 [cm] \approx 0,1332 [m]$$

$$\text{Cambio de calado a proa: } \frac{26 [m]}{100 [m]} \cdot 18 [cm] = 4,68 [cm] = 0,046 [m]$$

• Calados:

$$P_{opa} = 4,3 [m] + 0,08 [m] = 4,38 [m]$$

$$\text{Cambio oriento} = (-) 0,133$$

$$= 4,247 [m]$$

$$P_{roa} = 3 [m] + 0,08 [m] = 3,08 [m]$$

$$\text{Cambio oriento} = (+) 0,046$$

$$= 3,126$$

• Descarga. 40 ton a 12 [cm] de Ø

• Cambio de ariente = $\frac{\text{momento c. de ariente}}{nrc \cdot 1cm}$

$$W = 40 T$$
$$nrc \cdot 1cm = 120 \left[\frac{T \cdot cm}{cm} \right]$$

• Momento c. de ariente = $W \cdot d = 40 [T] \cdot 9 [cm] = 360 [T \cdot cm]$

• Cambio de ariente = $\frac{360 [T \cdot cm]}{120 \frac{[T \cdot cm]}{cm}} = 3 [cm] \approx 0,03 [cm]$

• Cambio de calado popa: $\frac{38 [cm]}{100 [cm]} \cdot 3 [cm] = 1,14 [cm]$
 $= 0,0114 [cm]$

• Cambio de calado proa: $\frac{62 [cm]}{100 [cm]} \cdot 3 [cm] = 1,86 [cm]$
 $= 0,0186 [cm]$

Hundimiento paralelo = $\frac{40 ton}{10 \left[\frac{ton}{cm} \right]} = 4 [cm] = 0,04 [cm]$

$$Popa = 4,247 [cm] - 0,04 [cm] = 4,207 [cm]$$
$$C. de A = (-) 0,0114 [cm]$$
$$= 4,1956 [cm]$$

$$Proa = 3,126 [cm] - 0,04 [cm] = 3,086 [cm]$$
$$C. de A = (+) 0,018 [cm]$$
$$= 3,104 [cm]$$