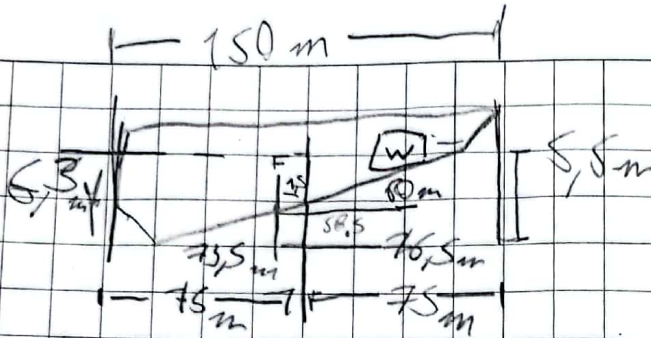


1)



fundimiento Paralelo

$$\frac{W}{TPC} = \frac{W}{15T}$$

$$MCT = 200 \text{ Tm}$$

Cambio orienten = x

$$TPC = 15T$$

$$d = 60 \text{ m}$$

momento w. 100

$$\frac{\text{momento cambio}}{MCT \text{ 1cm}} = \frac{W \cdot 60 \text{ m} \cdot 120}{200 \text{ Tm}} = \frac{W \cdot 3}{10}$$

$$\Delta T \text{ proa} = \frac{76.5 \text{ m}}{1.5} \cdot \frac{W \cdot 3}{10} = W \cdot 1.53 \text{ cm}$$

$$\Delta T \text{ popa} = \frac{73.5 \text{ m}}{1.5} \cdot \frac{W \cdot 3}{10} = W \cdot 1.47 \text{ cm}$$

$$\frac{1.47 \text{ cm}}{100} \cdot \frac{1 \text{ m}}{100} = 0.0147 W \text{ m}$$

$$\frac{1.53 \text{ cm}}{100} \cdot \frac{1 \text{ m}}{100} = 0.0153 W \text{ m}$$

Rede disminuye el calado

$$6.3 \text{ m} + \frac{W \cdot Tm}{15T} - 0.0147 W \text{ m} = 6.2 \text{ m} \times$$

$$\frac{630 \text{ cm}}{6.3} + \frac{W \cdot 3}{15T} - \frac{73.5 \text{ m}}{150 \text{ m}} \cdot \frac{W \cdot 60 \text{ m}}{200 \text{ Tm}} = \frac{620 \text{ cm}}{6.2}$$

$$630 + \frac{W}{15} - 0.49 \cdot \frac{W \cdot 60}{200T} = 620$$

$$630 + \frac{W}{15} - \frac{0.49 \cdot 60 W}{200T} = 620$$

$$630 \quad \frac{13,3W - 9119 \cdot 60W}{200\cancel{\text{t}}}$$

$$W \quad \frac{(13,3 - 2941)}{200} = -10 \text{ cm}$$

$$W \quad \frac{(-16,1)}{200\cancel{\text{t}}} = -10$$

$$W \quad \frac{(-0,0805)}{\cancel{\text{t}}_{\text{cm}}} = -10 \text{ cm}$$

$$W = \frac{-10 \text{ cm}}{-0,0805\cancel{\text{t}}_{\text{cm}}} = \boxed{124,22\cancel{\text{t}}}$$

Se necesitan 124,22t de agua para cambiar el calor de la fragata

$$1,2) \quad 550 \text{ cm} \quad \frac{124,22\cancel{\text{t}}}{15\cancel{\text{t}}} + \frac{76,5\cancel{\text{m}}}{150\cancel{\text{m}}} \cdot \frac{124,22\cancel{\text{t}} \times 60\cancel{\text{m}}}{200\cancel{\text{t}} \cdot \cancel{\text{m}}} = \text{CPR}_2$$

$$550 \text{ cm} \quad \frac{124,22}{15} + \frac{76,5}{200 \cdot 150} \cdot 124,22 \times 60$$

$$550 \text{ cm} \quad \frac{124,22}{15} + \frac{570169,8}{30,000} = 19,00$$

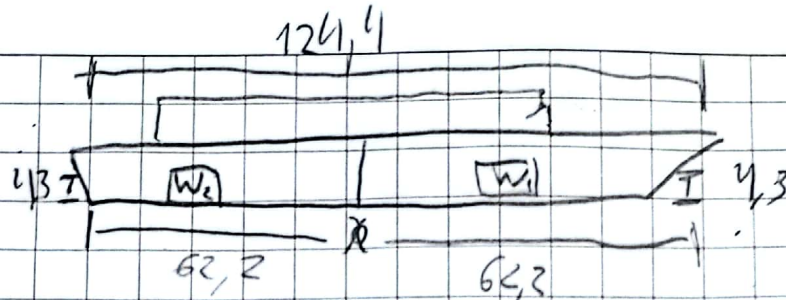
$$550 + 928\cancel{\text{t}} + 19 = \text{CPR}_2$$

$$577,28 \text{ cm} \quad \text{CPR}_2$$

$$5,77 \text{ mts}$$

El calor final de la proa será 5,77 mts

2)



$$C_{op} = 4,3 + 23 \text{ cm}$$

$$TDC = 32$$

$x = \text{momento}$

$$23 \text{ cm} = \frac{x}{125 \frac{\text{m}}{\text{cm}}}$$

$$x = 23 \cdot 125 \frac{\text{m}}{\text{cm}} = 2875 \text{ m}$$

$$\text{distancia entre estancias} = 32,3 + 23 \text{ m} = 55,3 \text{ m} = d$$

$$\frac{2875 \text{ m}}{55,3 \text{ m}} = 51,99 \frac{\text{m}}{\text{m}} = W_1$$

R: Se debe, disminuir 51,99 toneladas de agua dulce a poca para lograr el cambio de agua to.