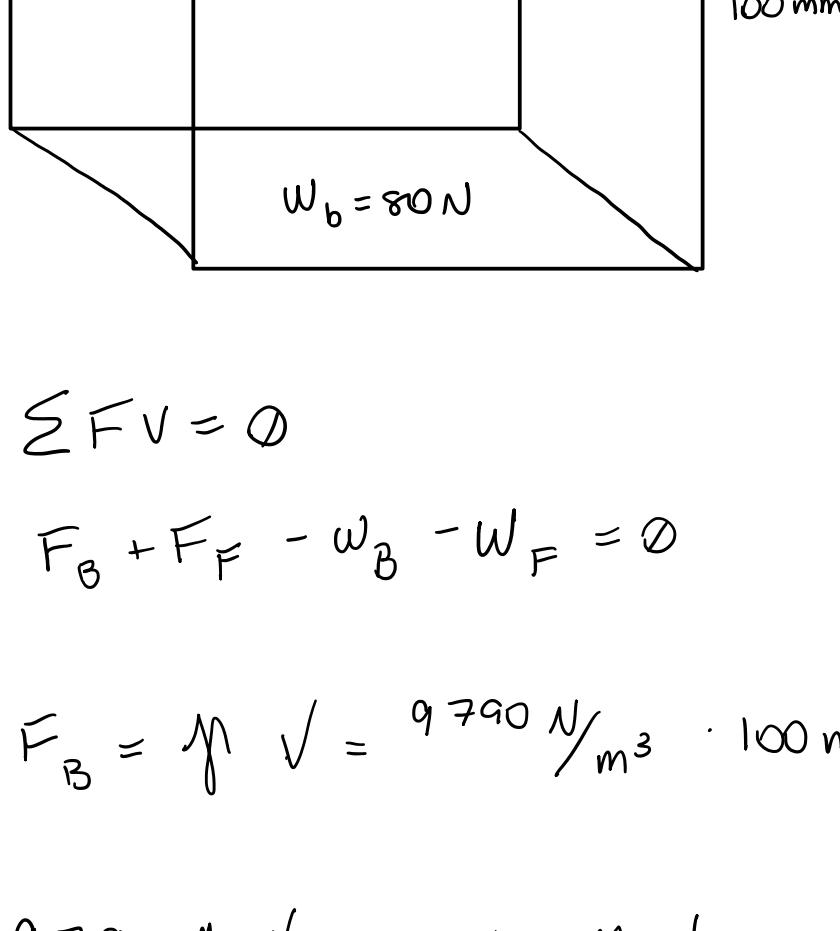


# Hw 1.4

Amira Lucas

## 5.8

111



$$9.79N + \gamma_F V_F - 80N - \gamma_F VF = 0$$

$$\gamma_C V_F - m_C l_c = 80N - 9.79 = 70.21N$$

$$F(\gamma_f - \gamma_F) = 70.21 N$$

(9790-470)

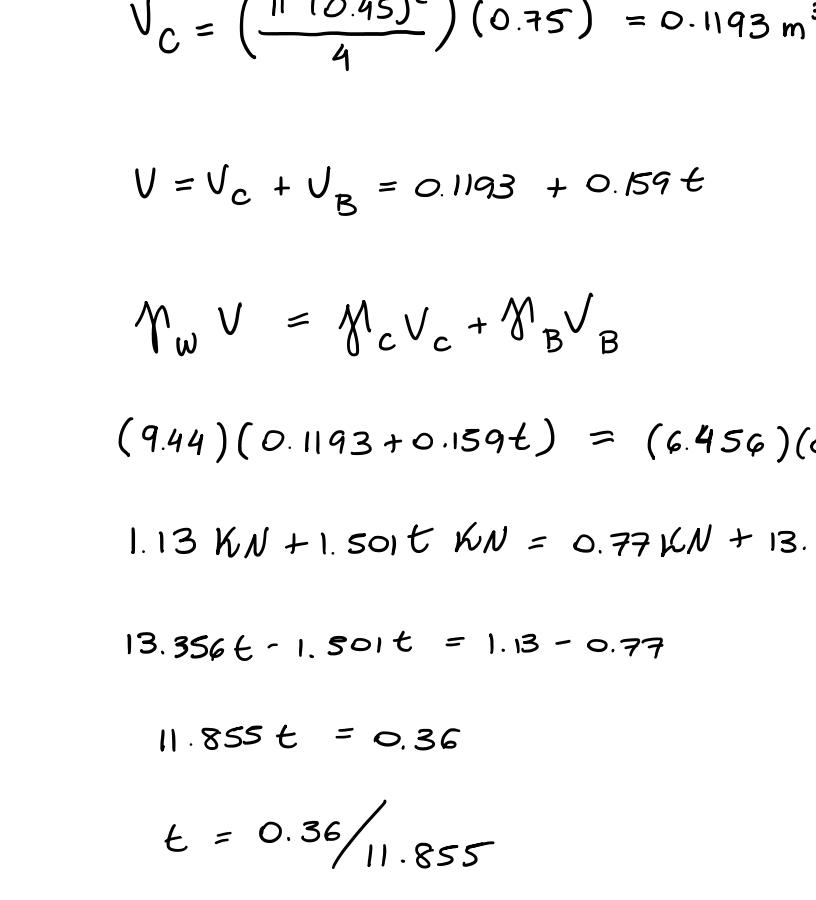
A hand-drawn diagram consisting of a black rectangular box with a vertical line inside it. To the right of the rectangle, a wavy yellow line extends across the page.

750 mm

Brass  
 $\gamma = 84 \text{ KN/m}^3$

A hand-drawn diagram consisting of a wavy black line on a white background. A horizontal bracket is drawn above the line, spanning its length. Below the line, the text "450 mm" is written.

$v_B$  -



59

$$A_p = 50 \cdot \pi \cdot (20 \text{ m})^2 = 1000 \text{ m}^2$$

yes, Plot form 73, 8' so there's 9

— 1 —

10

(61)

T 12

$$C_oG = \frac{\sum (y_i \cdot v_i)}{\sum v_i} \Rightarrow \frac{20.592}{19.8} =$$

Substituted

|   | V     | Duoyang<br>(y) | y-1  |
|---|-------|----------------|------|
| 1 | 11.88 | 1.05           | 1.58 |
| 2 | 3.96  | 0.4            | 12.4 |

$$CoB = \frac{\sum (y \cdot v)}{\sum v} \Rightarrow \frac{14.058}{15.84} = 0.8875m$$

$$MB = \frac{I}{\sqrt{d}}$$

$$V = \frac{1}{3} (2.4)(7.0)(5.5) + (5.5)(3.4)(2.9) = 15.84 \text{ m}^3$$

$$I = \frac{LB^3}{12} \Rightarrow \frac{(5.5)(2.4)^3}{12} = 6.336 \text{ m}^4$$

$$MB = \frac{6.336m^4}{15.84m^3} = 0.4m$$

$$MC > CoG \Rightarrow \therefore \text{Boat is stable}$$

10. The following table shows the number of hours worked by 1000 employees in a company.