1° ΠΑΡΑΔΕΙΓΜΑ

Πλοίο έχει τα παρκάτω χαρακτηριστικά :

$A_M = 42{,}0\ (m^2)$, $D = 2520\ (t)$, $\gamma = 1{,}025\ (t/m^3)$

$\frac{B}{d} = 2{,}53$, $C_B = 0{,}780$, $C_M = 0{,}936$

Να υπολογιστούν οι κύριες διαστάσεις L , B , d

ΛΥΣΗ

$$C_B = \frac{V}{LBd} = \frac{D}{\gamma L B d} \Rightarrow L = \frac{D}{C_B \cdot \gamma \cdot (B \cdot d)} \quad (1)$$

$$C_M = \frac{A_M}{B \cdot d} \Rightarrow B \cdot d = \frac{A_M}{C_M} \Rightarrow B \cdot d = \frac{42{,}0}{0{,}936} = 44{,}87\ (m^2) \quad (2)$$

Από (1) & (2) $\Rightarrow L = \dfrac{2520\ (t)}{0{,}780 \times 1.025\ (t/m^3) \times (44.87)\ (m^2)} \Rightarrow \boxed{L = 70.246\ (m)}$

$\frac{B}{d} = 2{,}53 \Rightarrow B = 2{,}53 \cdot d$

$B \cdot d = 44{,}87 \Rightarrow d = ^4$ $\Rightarrow (2{,}53 \cdot d) \cdot d = 44{,}87 \Rightarrow$

$\Rightarrow 2{,}53 \cdot d^2 = 44{,}87 \Rightarrow \boxed{d = 4{,}21\ (m)}$

$\frac{B}{d} = 2{,}53 \Rightarrow B = 2{,}53 \cdot d \Rightarrow B = 2{,}53 \times 4{,}21 \Rightarrow \boxed{B = 10{,}65\ (m)}$