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Labsol Tutor FF KG 12 Nov 2021

1. $F = \rho g h$ ~~A~~

Karena airnya tidak ada g
(perc. gravitasi) sehingga

$$F = 0$$

$$F = \rho \cdot 0 \cdot p \cdot h = 0$$

$$P = P_0 + F = P_0 = 101.3 \text{ kPa}$$

8.

2. $\rho \text{ pating} = 10.500 \text{ kg/m}^3$

volume pating: 5 m^3

$\rho \text{ air laut} = 1.024 \text{ kg/m}^3$

$\rho \text{ air} = 1000 \text{ kg/m}^3$

$$F_g = \text{Tensi tali}$$

$$F_{g \text{ laut}} = W_{\text{pating}} - F_{\text{apung laut}}$$

$$= 10.500 \cdot 5 \cdot 9,8 - 1024 \cdot 9,8 \cdot 5$$

$$= ~~232400~~ 464324 \text{ N}$$

$$F_{g \text{ air}} = W_{\text{pating}} - F_{\text{apung air}}$$

$$= 10.500 \cdot 5 \cdot 9,8 - 1000 \cdot 9,8 \cdot 5$$

$$= ~~350000~~ 465500$$

$$A F_g = ~~3500 - 2324 = 1176 \text{ N}~~$$

$$O F_g = 465500 - 464324 = 1176 \text{ N}$$

3. $A_1 = 210 \text{ mm}^2 = 2,1 \cdot 10^{-4} \text{ m}^2$

$$A_2 = 120 \text{ mm}^2 = 1,2 \cdot 10^{-4} \text{ m}^2$$

$$v_1 = 2 \text{ m/s}$$

$$A_1 v_1 = A_2 v_2 \quad 0,6$$

$$2,1 \cdot 10^{-4} \cdot 2 = 1,2 \cdot 10^{-4} \cdot v_2$$

$$\frac{2,1}{0,6} = v_2$$

$$v_2 = 3,5 \text{ m/s}$$

9. $F_2 = 10 \text{ N}$

$$F_1 = 30 \text{ N}$$

$$V = 5 \text{ t}$$

$$v_1 = 1 \text{ m/s}$$

$$v_2 = 6 \text{ m/s}$$

$$\frac{F_1 L_1}{v_1 A} = \frac{F_2 L_2}{v_2 A}$$

$$\frac{30 L_1}{1} = \frac{10 L_2}{6}$$

$$30 L_1 = \frac{10}{6} L_2$$

$$18 L_1 = L_2$$