

Hidráulica I

1º MAP 16/03/2026

Problema 1

a)

$$p_{atm} = 101200 \text{ Pa}$$

$$p_{abs} = 150000 \text{ Pa}$$

$$p_{abs} = p_{rel} + p_{atm} \Rightarrow p_{rel} = 150000 - 101200 = 48800 \text{ Pa} \quad 0,5$$

$$p_{rel} = \frac{p_{rel}}{\gamma} = \frac{48800}{9800} = 4,98 \text{ m c.a.} \quad 0,5$$

b)

$$p_{rel} = h_{\text{água}} \gamma_{\text{água}} + h_A \gamma_A + h_m \gamma_m \Rightarrow \quad 1,0$$

$$\Rightarrow p_{rel} = h_{\text{água}} \gamma_{\text{água}} + h_A d_A \gamma_{\text{água}} + h_m d_m \gamma_{\text{água}} \Rightarrow$$

$$\Rightarrow 48800 = 0,5 \times 9800 + 1,0 \times 9800 \times d_A + 0,1 \times 13,6 \times 9800 \Rightarrow$$

$$d_A = 3,12 \quad 2,0$$