

# PROBLEMA N 17 PAG 303

1/2

$$F_1 = 50 \text{ N} \quad A_1 = 3 \text{ cm}^2 = 3 \times 10^{-4} \text{ m}^2$$

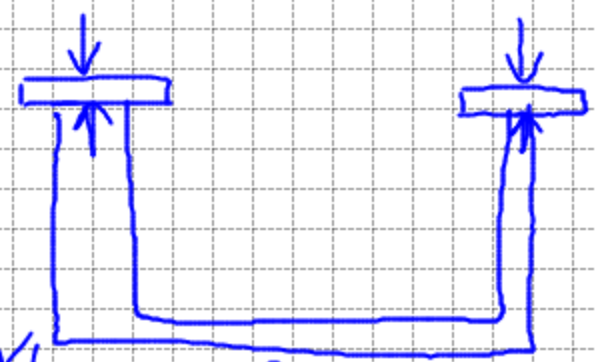
$$P_1 = \frac{F_1}{A_1} = \frac{50 \text{ N}}{3 \times 10^{-4} \text{ m}^2} = 1,7 \times 10^5 \text{ Pa}$$

$$A_2 = ? \quad m = 3 \text{ t} = 3 \times 10^3 \text{ kg}$$

$$P_2 = 3 \times 10^3 \text{ kg} \times 9,8 \frac{\text{m}}{\text{s}^2} = 29,4 \times 10^3 \text{ N}$$

$$F_1 : A_1 = P_2 : A_2$$

$$A_2 = \frac{A_1 P_2}{F_1} = \frac{3 \times 10^{-4} \text{ m}^2 \times 29,4 \times 10^3 \text{ N}}{50 \text{ N}} = 0,2 \text{ m}^2$$



# PROBLEMA N29 PAG 303

2/2

$$P = 101 \text{ kPa}$$

$$P_h = 2P$$

$$P = \frac{F}{S}$$

$$P_h = \frac{2F}{S}$$

$$P = \rho h g$$

$$h = 0$$

$$P_0 = 101 \text{ kPa}$$

$$h = h$$

$$P_h = P_0 + \rho_{H_2O} g h$$

$$\rho_{H_2O} = 1,0 \times 10^3 \frac{\text{kg}}{\text{m}^3}$$

$$2P_0 = P_0 + \rho_{H_2O} g h$$

$$h = \frac{P_0}{\rho_{H_2O} g}$$

$$h = \frac{101 \times 10^3 \text{ Pa}}{1,0 \times 10^3 \frac{\text{kg}}{\text{m}^3} \cdot 9,81 \frac{\text{m}}{\text{s}^2}}$$

$$h = 10,3 \text{ m}$$

