

str. 130 / uloha 677

1.

$$h_1 = 50 \text{ cm} = 0,5 \text{ m}$$

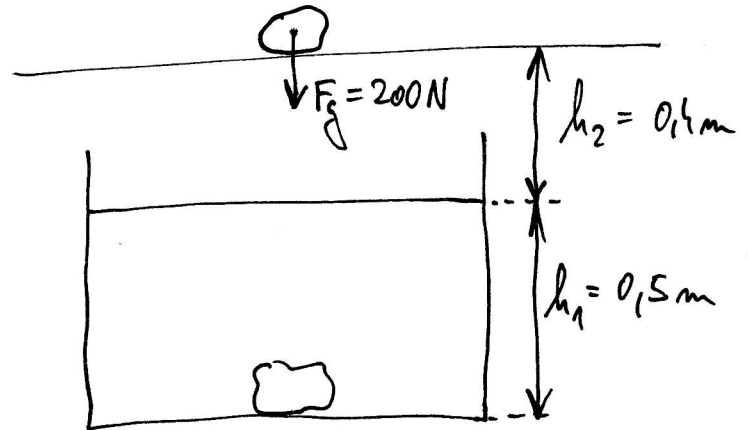
$$h_2 = 0,4 \text{ m}$$

$$F_g = 200 \text{ N}$$

$$\rho_k = 2000 \frac{\text{kg}}{\text{m}^3}$$

$$\rho_v = 1000 \frac{\text{kg}}{\text{m}^3}$$

$$g = 10 \frac{\text{N}}{\text{kg}}$$



$$W = W_1 + W_2$$

$$W_1 = F_1 \cdot h_1$$

$$W_1 = 100 \cdot 0,5$$

$$\underline{W_1 = 50 \text{ J}}$$

$$F_1 = F_g - F_{v2}$$

$$F_1 = 200 - 100$$

$$\underline{F_1 = 100 \text{ N}}$$

$$F_{v2} = V_k \cdot \rho_v \cdot g$$

$$F_{v2} = 0,01 \cdot 1000 \cdot 10$$

$$\underline{F_{v2} = 100 \text{ N}}$$

$$\rho_k = \frac{m_k}{V_k}$$

\Rightarrow

$$V_k = V_k = \frac{m_k}{\rho_k} = \frac{20}{2000} = \underline{\underline{0,01 \text{ m}^3}}$$

$$F_g = m_k \cdot g$$

\Rightarrow

$$m_k = \frac{F_g}{g} = \frac{200}{10} = \underline{\underline{20 \text{ kg}}}$$

$$W_2 = F_g \cdot h_2$$

$$W_2 = 200 \cdot 0,4$$

$$\underline{\underline{W_2 = 80 \text{ J}}}$$

$$W = W_1 + W_2$$

$$W = 50 + 80$$

$$\underline{\underline{W = 130 \text{ J}}}$$

Chlapec vykona práci o veľikosti 130 J.