

$$F_2 = 9800 \text{ N} = m \cdot g$$

$\uparrow 1000 \text{ kg}$

$$1) m = \frac{F_1}{g} = \frac{350 \text{ N}}{9,8 \frac{\text{N}}{\text{kg}}} = 35,7... \text{ kg}$$

$$\approx 36 \text{ kg}$$

$$2) F = m \cdot g = (1000 \text{ kg}) (9,8 \frac{\text{N}}{\text{kg}}) = 9800 \text{ N}$$

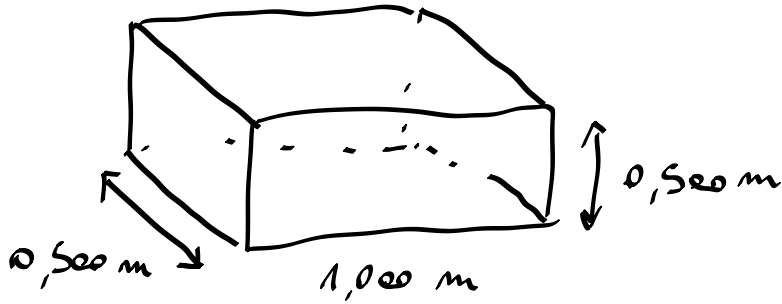
$$3) \frac{F_2}{F_1} = \frac{9800 \text{ N}}{350 \text{ N}} = 28$$

$$4) \frac{F_1}{S_1} = \frac{F_2}{S_2}$$

$$\Downarrow$$

$$S_2 = \frac{S_1 F_2}{F_1} = \frac{\pi (0,200 \text{ m})^2 (9800 \text{ N})}{(350 \text{ N})} = \boxed{3,5 \text{ m}^2}$$

5) 18.161



$$m = 100 \text{ kg}$$

$$V_{\text{IMBALL.}} = (0,500 \text{ m}) (1,000 \text{ m}) (0,500 \text{ m}) = 0,250 \text{ m}^3$$

$$1) V_{\text{H}_2\text{O}} = \frac{m}{d} = \frac{100 \text{ kg}}{1028 \text{ kg/m}^3} = 0,0973 \text{ m}^3$$

VOLUME DI H<sub>2</sub>O  
DA SPOSTARE IN  
MODO CHE  
F<sub>A</sub> SIA  
UGUALE A F<sub>P</sub>



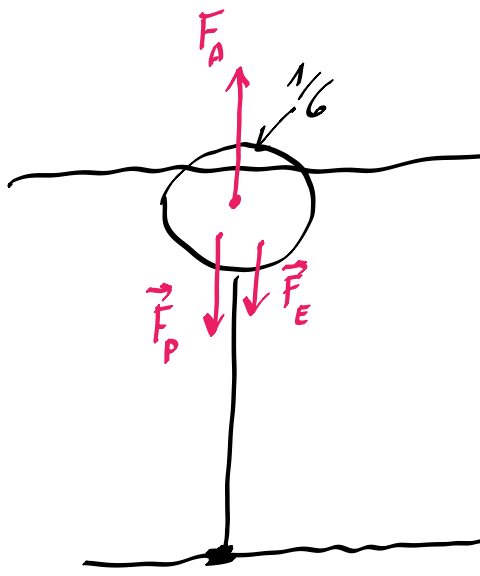
$$\text{Area}_{\text{BASE}} \cdot d = 0,0973 \text{ m}^3$$

$$d = \frac{0,0973 \text{ m}^3}{(1,000 \text{ m})(0,500 \text{ m})} \cong 0,195 \text{ m}$$

$$7) \quad m = 10 \text{ kg}$$

$$R = 0,30 \text{ m}$$

$$d_{\text{H}_2\text{O}} = 1018 \frac{\text{kg}}{\text{m}^3}$$



$$K = 800 \frac{\text{N}}{\text{m}}$$

$$F_P = mg$$

$$F_A = d_{\text{H}_2\text{O}} \cdot \frac{5}{6} V \cdot g$$

$$F_P + F_E = F_A$$

$$F_E = Kx$$

$$mg + Kx = d \cdot \frac{5}{6} \frac{4}{3} \pi R^3 \cdot g$$

$$98 + 800x = \frac{10}{9} \pi \cdot 1018 \cdot 9,8 \cdot (0,30)^3$$

940,253....

$$x = \frac{F_A - 98}{800} \approx \boxed{1,1 \text{ m}}$$