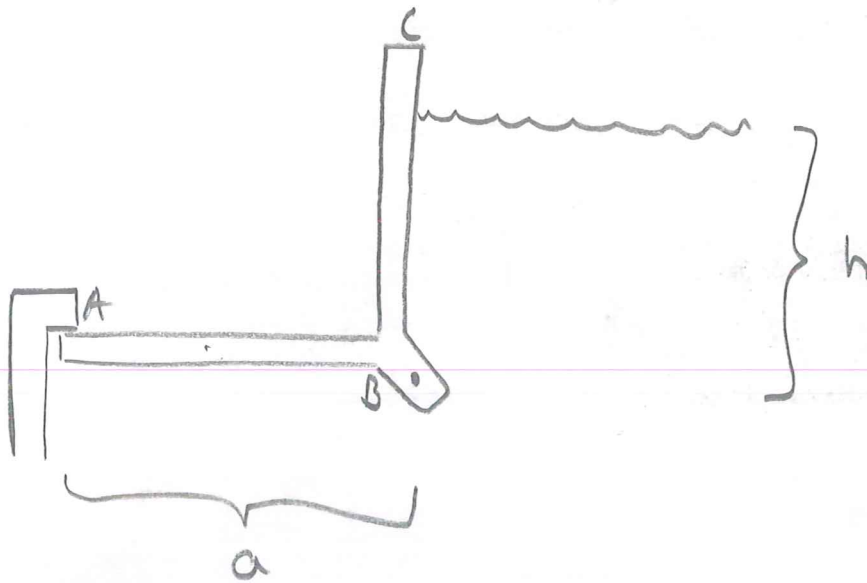
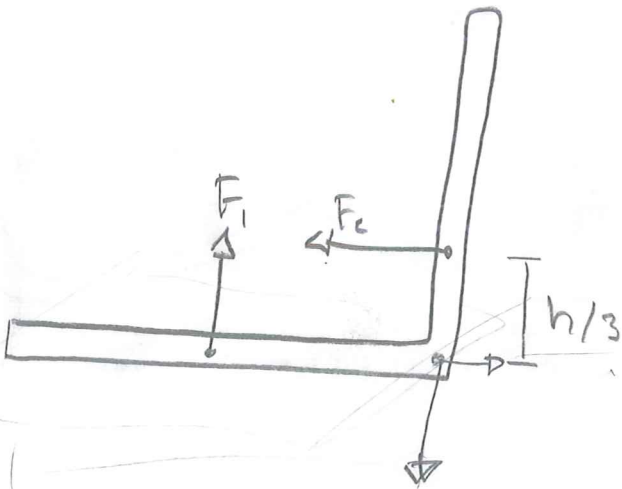


Hydrostatik

H1



Frilägging:



$$F_1 \cdot \frac{a}{2} = F_2 \cdot \frac{h}{3}$$

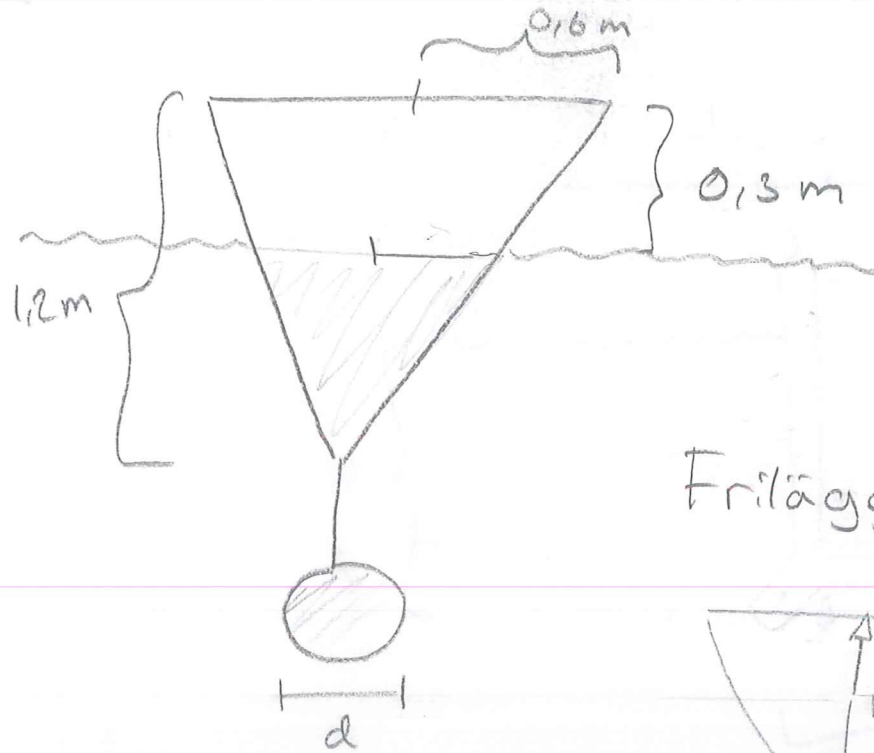
$$\frac{a^2}{2} = \frac{h^2}{6}$$

$$a = \frac{1}{\sqrt{3}} h$$

$$F_1 = \rho g h \cdot a \cdot d$$

$$F_2 = \frac{\rho g h}{2} \cdot h \cdot d$$

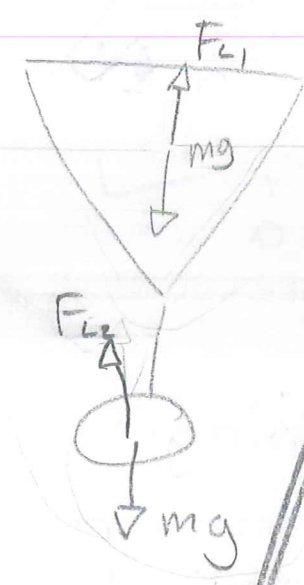
H2



$$\frac{1,2}{0,9} = \frac{0,6}{x}$$

$$x = 0,45$$

Fritlägning



$$F_{L1} + F_{L2} = m_1 g + m_2 g$$

$$m_1 g = \rho g \pi r L =$$

$$= \rho g \pi r \sqrt{r^2 + h^2} = \boxed{371,5 \text{ N}}$$

$$m_2 g = \rho \pi r^2 g = \boxed{111653,5 \pi r^2}$$

$$F_{L1} = \frac{1}{3} \pi r^2 h \cdot \rho_{H_2O} g = \boxed{614,5 \text{ N}}$$

$$F_{L2} = \pi r^2 \cdot \rho g = \boxed{10114,6 \pi r^2}$$

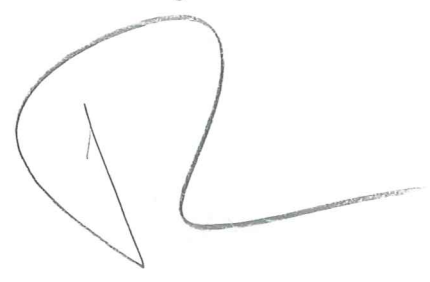


r =

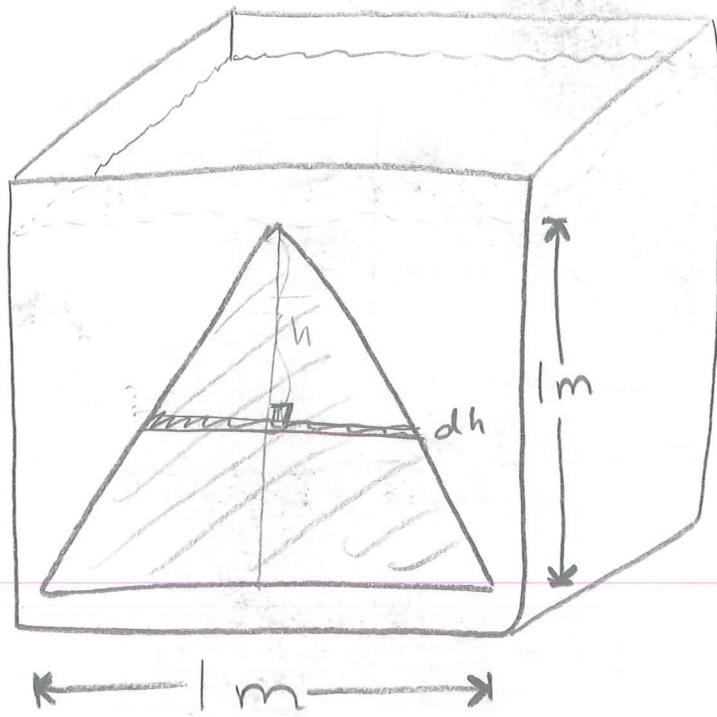
$$m_1 g + m_2 g = F_{L1} + F_{L2}$$

$$101539 r^2 = 243$$

$$\boxed{r = 0,05 \text{ m}}$$



H3



$$R = \int_0^1 \rho g A dh$$

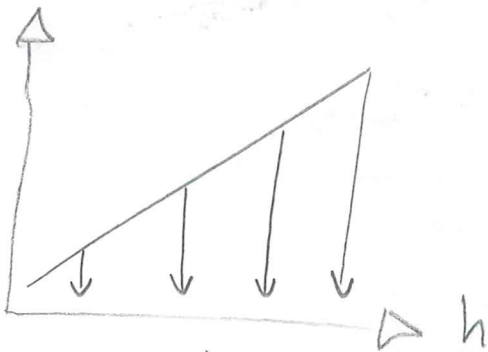
$$\int_0^1 \rho g h^2 dh$$

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

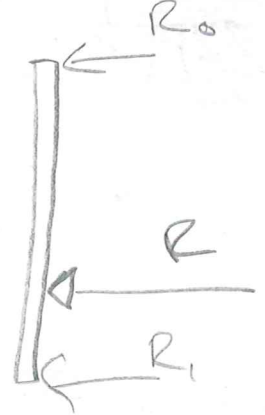


$$A = \frac{1}{2} b h$$

$$R = \int_0^1 h \cdot \rho g h dh = \frac{\rho g}{3} [h^3]_0^1 = \frac{\rho g}{3} = \boxed{3,27 \text{ kN}}$$



A =



$$H_T = \frac{\int_0^1 \rho g h^2 dh}{3,27} = \boxed{0,75 \text{ m}}$$

$$R = R_1$$

$$\boxed{3,27 = 527}$$