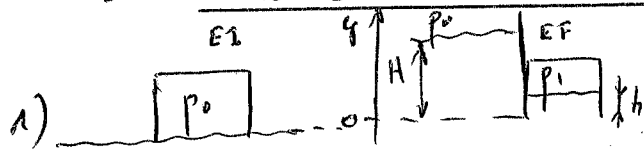


MF116 - A la découverte d'une grotte sous-marine



* Conservation de la GP : $\rho R T = p_0 a^3 = p_1 a^2 (a - h) \rightarrow p_0 = p_1 \left(1 - \frac{h}{a}\right)$

* RFSF dans l'état final : $p_0 + \rho g H = p_1 + \rho g h$

$$p_0 + \rho g H = \frac{p_0}{1 - \frac{h}{a}} + \rho g h \rightarrow \rho g h \left(1 - \frac{h}{a}\right) - (p_0 + \rho g h) \left(1 - \frac{h}{a}\right) + p_0 = 0$$

$$- \frac{\rho g h^2}{a} + h \left(p_0 + \rho g \left(h + \frac{H}{a} \right) \right) + \rho g h = 0$$

A.N: $10^4 h^2 + h (10^5 + 310^4) - 110^4 = 0$

$$h^2 + 13h - 2 = 0 \rightarrow h = \frac{1}{2} (-13 + \sqrt{13^2 + 8}) = 0,152 \text{ m.}$$

b) $p_1 = \frac{p_0}{1 - \frac{h}{a}} \rightarrow \underline{p_1 = 1,18 \text{ bar}}$