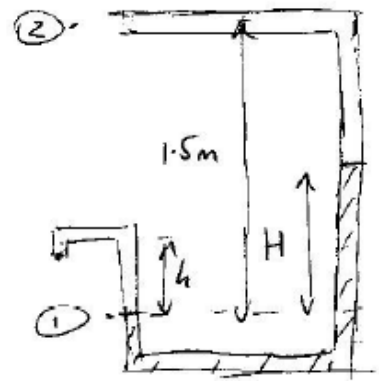


(b) (i) Manometer Analysis

Pressure in manometer at ①
is stagnation pressure:

$$p_1 + \frac{1}{2} \rho_a V_1^2$$

Pressure at ② in manometer
is p_2 .



Hence: $p_1 + \frac{1}{2} \rho_a V_1^2 = p_2 + \rho_a g(z_2 - z_1 - H) + \rho_w g H$

$$\Rightarrow \frac{p_1 - p_2}{\rho_a} = g(1.5 - h) + \frac{\rho_w}{\rho_a} g H - \frac{1}{2} V_1^2 \quad \text{--- (1)}$$