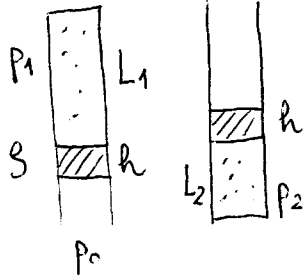


18.)



$$p_0 = ?$$

$$T = \text{all}$$

$$pV = nRT$$

$$p_H = h \rho g$$

$$pV = \text{all}$$

$$p_1 V_1 = p_2 V_2$$

$$p_1 A L_1 = p_2 A L_2 \rightarrow \frac{p_1}{p_2} = \frac{L_2}{L_1}$$

$$\begin{cases} p_0 A + A h \rho g = p_2 A \\ p_1 A + A h \rho g = p_0 A \end{cases}$$

$$\begin{cases} p_2 = p_0 + h \rho g \\ p_1 = p_0 - h \rho g \end{cases} \quad \div$$

$$\frac{p_2}{p_1} = \frac{L_1}{L_2} = \frac{p_0 + h \rho g}{p_0 - h \rho g}$$

$$L_1 p_0 - L_1 h \rho g = L_2 p_0 + L_2 h \rho g$$

$$p_0 (L_1 - L_2) = h \rho g (L_2 + L_1)$$

$$p_0 = \frac{h \rho g (L_2 + L_1)}{L_1 - L_2}$$