$$\bar{V}_1 A_1 = \bar{V}_2 A_2 + \bar{V}_3 A_3 \quad (1)$$

$$\bar{V}_2 = \frac{V_1 A_1 - \bar{V}_3 A_3}{A_2}$$

$$\rho_1 A_1 \bar{V}_1 = \rho_2 A_2 \bar{V}_2 + \rho_3 A_3 \bar{V}_3 \quad (2)$$

$$\rho_1 \bar{V}_1 A_1 = \rho_2 \cancel{A_2} \left(\frac{V_1 A_1 - \bar{V}_3 A_3}{\cancel{A_2}} \right) + \rho_3 A_3 \bar{V}_3 \quad (3)$$

$$\rho_1 \bar{V}_1 A_1 = \rho_2 \bar{V}_1 A_1 - \rho_2 \bar{V}_3 A_3 + \rho_3 A_3 \bar{V}_3 \quad (4)$$

$$\bar{V}_1 A_1 = \bar{V}_2 A_2 + \bar{V}_3 A_3 \quad (1)$$

$$\bar{V}_2 = \frac{\bar{V}_1 A_1 - \bar{V}_3 A_3}{A_2}$$

$$\rho_1 A_1 \bar{V}_1 = \rho_2 A_2 \bar{V}_2 + \rho_3 A_3 \bar{V}_3 \quad (2)$$

$$\rho_1 \bar{V}_1 A_1 = \rho_2 A_2 \left(\frac{\bar{V}_1 A_1 - \bar{V}_3 A_3}{A_2} \right) + \rho_3 A_3 \bar{V}_3 \quad (3)$$

$$\rho_1 \bar{V}_1 A_1 = \rho_2 \bar{V}_1 A_1 - \rho_2 \bar{V}_3 A_3 + \rho_3 A_3 \bar{V}_3 \quad (4)$$

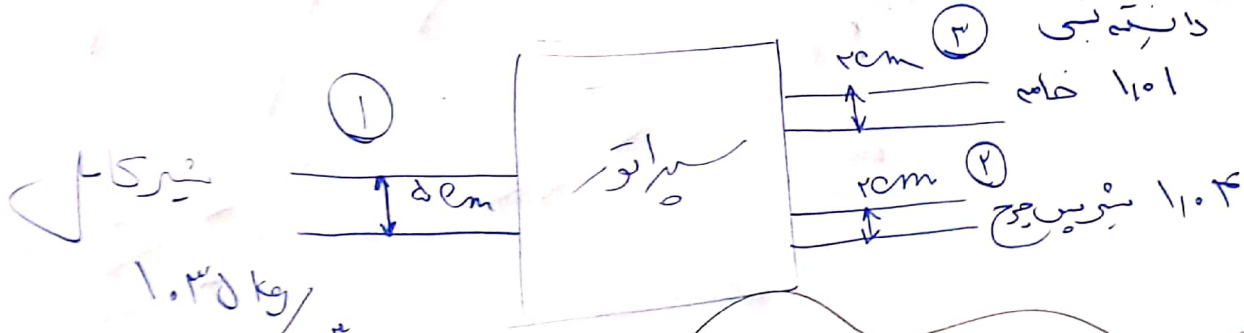
$$\bar{V}_1 A_1 = \bar{V}_2 A_2 + \bar{V}_3 A_3 \quad (1)$$

$$\bar{V}_2 = \frac{\bar{V}_1 A_1 - \bar{V}_3 A_3}{A_2}$$

$$\rho_1 A_1 \bar{V}_1 = \rho_2 A_2 \bar{V}_2 + \rho_3 A_3 \bar{V}_3 \quad (2)$$

$$\rho_1 \bar{V}_1 A_1 = \rho_2 A_2 \left(\frac{\bar{V}_1 A_1 - \bar{V}_3 A_3}{A_2} \right) + \rho_3 A_3 \bar{V}_3 \quad (3)$$

$$\rho_1 \bar{V}_1 A_1 = \rho_2 \bar{V}_1 A_1 - \rho_2 \bar{V}_3 A_3 + \rho_3 A_3 \bar{V}_3 \quad (4)$$



$$\rho_1 v_1 A_1 - \rho_2 v_2 A_1 = \rho_3 v_3 A_3 - \rho_2 v_2 A_3$$ (۵)

$$v_1 A_1 (\rho_1 - \rho_2) = v_3 A_3 (\rho_3 - \rho_2)$$ (۶)

$v_3 =$