

Formulário - Prova 1 - COQ 710

$$dU = \delta Q + \delta W$$

$$TdS \geq \delta Q$$

$$H = U + PV$$

$$G = H - TS$$

$$F = U - TS$$

$$\alpha = \frac{1}{V} \left(\frac{\partial V}{\partial T} \right)_{P, N_i}$$

$$\beta_T = -\frac{1}{V} \left(\frac{\partial V}{\partial P} \right)_{T, N_i}$$

$$\mu_{JT} = \left(\frac{\partial T}{\partial P} \right)_{H, N_i}$$

$$dU = TdS - PdV + \sum_{i=1}^c \mu_i dN_i$$

$$dH = TdS + VdP + \sum_{i=1}^c \mu_i dN_i$$

$$dG = -SdT + VdP + \sum_{i=1}^c \mu_i dN_i$$

$$dF = -SdT - PdV + \sum_{i=1}^c \mu_i dN_i$$

$$C_V = \left(\frac{\partial U}{\partial T} \right)_{V, N_i}$$

$$C_P = \left(\frac{\partial H}{\partial T} \right)_{P, N_i}$$

$$\frac{\partial^2 z}{\partial x \partial y} = \frac{\partial^2 z}{\partial y \partial x}$$

$$\left(\frac{\partial y}{\partial x} \right)_z = 1 / \left(\frac{\partial x}{\partial y} \right)_z$$

$$\left(\frac{\partial y}{\partial x} \right)_z \left(\frac{\partial x}{\partial z} \right)_y \left(\frac{\partial z}{\partial y} \right)_x = -1$$

$$F = -k_B T \ln Q$$

$$\lim_{N \gg 1} \ln N! \approx N \ln N - N$$

$$R = 8.314 \text{ J/mol.K}$$

$$N_A = 6.022 \times 10^{23} \text{ mol}^{-1}$$

$$1 \text{ bar} = 10^5 \text{ Pa}$$
