

$$① a) \eta = \eta_0 \frac{\rho t}{\rho_0 t_0} = 1,002 \text{ cP} \cdot \frac{1'169 \frac{\text{g}}{\text{cm}^3} \cdot 179'6 \text{ s}}{0'998 \frac{\text{g}}{\text{cm}^3} \cdot 149'8 \text{ s}} = 1,44577 \text{ cP} \quad 3/4$$

$$\frac{d\eta}{\eta} = \frac{d\rho}{\rho} + \frac{d\rho}{\rho} + \frac{d\rho_0}{\rho_0} + \frac{dt}{t} + \frac{dt_0}{t_0} = 0'001 + 0'002 + 0'002 + \frac{1'2}{179'6} + 0'01$$

$$= 0'02168 \approx 0'02 \quad 1/4$$

$$d\eta = 0'0313 \text{ cP} \approx 0'03 \text{ cP} \quad 1/4$$

$$\eta = 1'44577 \text{ cP} = 1'44577 \cdot 10^{-3} \frac{\text{Ns}}{\text{m}^2} \quad 1/4$$

$$\eta = (1'45 \pm 0'03) \cdot 10^{-3} \frac{\text{Ns}}{\text{m}^2} = 1'45 (1 \pm 0'02) \cdot 10^{-3} \frac{\text{Ns}}{\text{m}^2} \quad 1/4$$

$$b) Re = \frac{2r\bar{v}\rho}{\eta} = \frac{0'251 \cdot 10^{-3} \text{ m} \cdot 0'41 \text{ m/s} \cdot 1'002 \cdot 10^3 \frac{\text{kg}}{\text{m}^3}}{1'44577 \cdot 10^{-3} \frac{\text{Ns}}{\text{m}^2}} = 102 < 2100 \quad 1/4$$

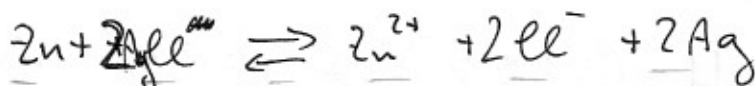
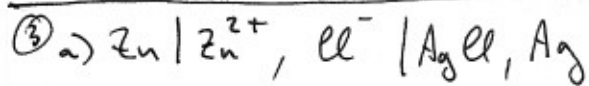
laminarno

$$\bar{v} = \frac{V}{\pi r^2 t} = \frac{3 \cdot 10^{-6} \text{ m}^3}{\pi (0'1255)^2 \cdot 10^{-2} \text{ s}} = 0'41 \text{ m/s} \quad 1/4$$

$$④ a) \Delta H_t = \frac{Q_t}{m} = \frac{Q_t \cdot \Delta T_t}{\Delta T_t \cdot m} = \frac{m \cdot c_p \cdot (T_u - T_z)}{\Delta T_t} =$$

$$= \frac{5,294 \text{ g} \cdot 4'1818 \text{ J} \cdot (50 - 23'8) \text{ K} \cdot 0'35 \text{ K}}{\text{g} \cdot \text{K} \cdot 0'40 \text{ K} \cdot 7'3567 \text{ g}} = 68'73 \frac{\text{J}}{\text{g}} \quad 1/2$$

b) WHEATSTONEOV MOST $1/4$
reazloga $3/4$



$$b) E_{\text{Zn}} = E_{\text{Zn}}^{\circ} + \frac{RT}{2F} \ln c_{\text{Zn}} = -0'762 \text{ V} + \frac{8'314 \cdot 298 \text{ K}}{2 \cdot 96487 \text{ C/mol}} \ln 0'125$$

$$= -0'7887 \text{ V}$$

$$E_{\text{Ag}} = E_{\text{Ag}}^{\circ} - \frac{RT}{F} \ln c_{\text{e}^-} = 0'222 - \frac{8'314 \cdot 298}{96487} \ln 0'325$$

$$= 0'2509 \text{ V}$$

$$E = E_{\text{Ag}} - E_{\text{Zn}} = 1'0396 \text{ V} \quad 1/4$$

$$d) I = \frac{E}{R_1 + R_2} = \frac{1'0396 \text{ V}}{59'5 \Omega} = 17'47 \text{ mA} \quad 1/4$$

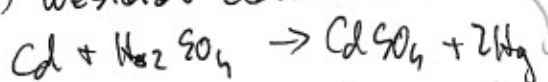
$$c) R_1 = R_2 \left(\frac{l_x}{l_x'} - 1 \right) = \frac{1}{4} \cdot 18 \text{ k}\Omega = 4'5 \text{ k}\Omega \quad 1/2$$

$$l_x' = \frac{1}{3} l_x$$

$$\frac{n_{\text{Zn}}}{n_{\text{e}}} = \frac{1}{2} \quad n_{\text{Zn}} = \frac{2}{3} \cdot 0'5 \text{ mol} = 0'3333 \text{ mol}$$

$$n_{\text{Ag}} = 0'6667 \text{ mol}$$

e) Westonov član



$$t = \frac{e}{I} = 184100 \text{ s} \quad 1/4$$

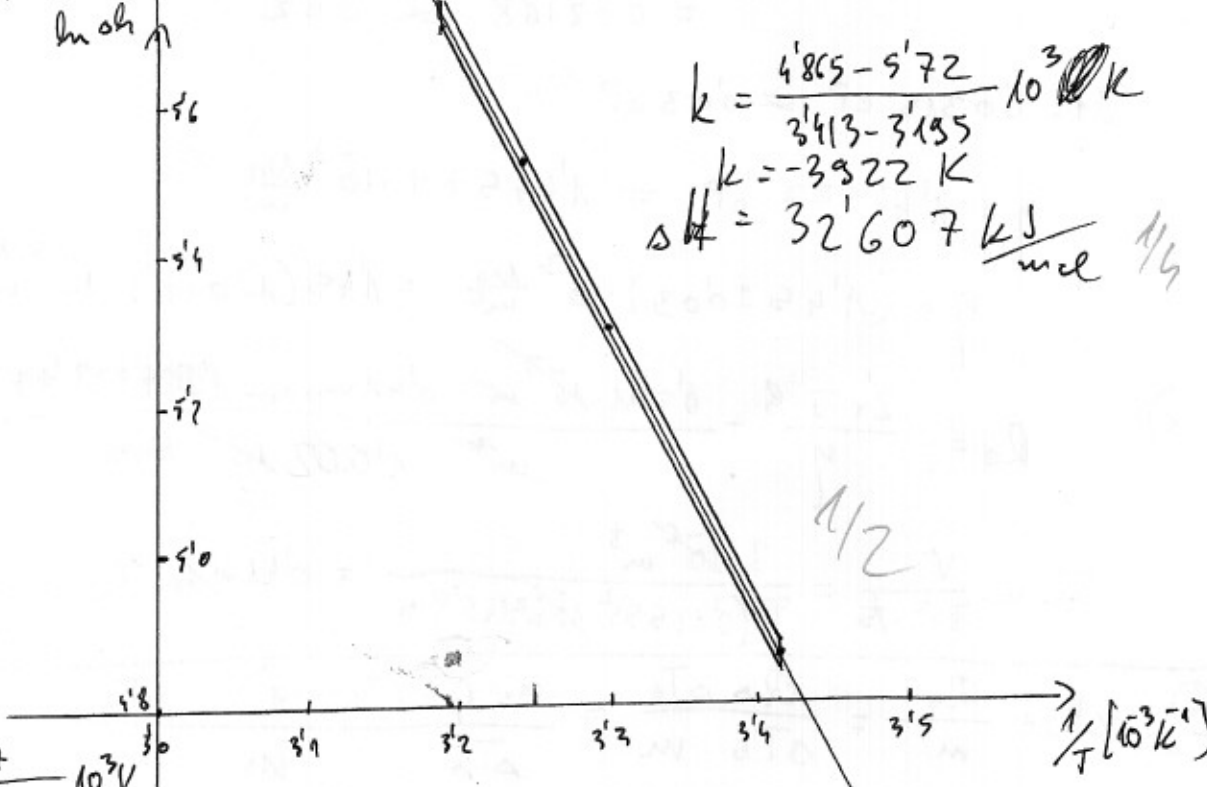
$$e = n_{\text{e}} \cdot F = 3216 \text{ As} \quad 1/4$$

②

$\ln \frac{p}{p_0}$	$\ln \frac{p}{p_0}$	$1/T [10^3 K^{-1}]$
5'704	3'401	3'195
5'521	3'219	3'247
5'298	2'996	3'300
4'867	2'569	3'413

$$\Delta h = p$$

$p_0 = 712.7 \text{ mmHg}$
 $\ln p_0 = 6'569$



$$k = \frac{4'865 - 5'72}{3'413 - 3'195} \cdot 10^3 \text{ K}$$

$$k = -3922 \text{ K}$$

$$\Delta H = 32'607 \text{ kJ/mol}$$

$$k' = \frac{4'885 - 5'7}{3'413 - 3'195} \cdot 10^3 \text{ K}$$

$$k' = -3738 \text{ K}$$

$$\Delta H' = 31'082 \text{ kJ/mol}$$

$$\Delta(\Delta H) = 1'525 \text{ kJ/mol} \approx 2 \text{ kJ/mol}$$

$$\frac{\Delta(\Delta H)}{\Delta H} = 0'04676 = 0'05$$

$$k'' = \frac{4'85 - 5'74}{3'413 - 3'195} \cdot 10^3 \text{ K}$$

$$k'' = -4083 \text{ K}$$

$$\Delta H'' = 33'94 \text{ kJ/mol}$$

$$\Delta H = (33 \pm 2) \text{ kJ/mol} = 33(1 \pm 0'05) \text{ kJ/mol}$$

b) $\frac{6'569 - 4'865}{x - 3'413} \cdot 10^3 \text{ K} = -3922 \text{ K}$

$$x - 3'413 = -0'4345$$

$$x = 2'975$$

$$\frac{1}{T_V} = 2'975 \cdot 10^{-3} \text{ K}^{-1}$$

$$T_V = 335'7 \text{ K} = \underline{62'7^\circ \text{C}}$$