

Nr. 3

$$n = \frac{Q}{z \cdot F} \quad \Leftrightarrow \quad Q = n \cdot z \cdot F$$

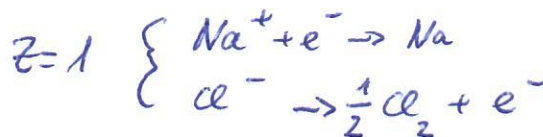
$$= \frac{m}{M} \cdot z \cdot F$$

$$= \frac{5 \cdot 10^{-8} \text{ g}}{58,5 \frac{\text{g}}{\text{mol}}} \cdot 96485 \frac{\text{C}}{\text{mol}}$$

$$= 8,31767 \cdot 10^{-11} \text{ C}$$

Ablutung: $n(\text{NaCl})$

$M(\text{NaCl})$



$$W = U \cdot Q \quad \left\{ \begin{array}{l} E^0_{\text{Na}^+/\text{Na}} = -2,71 \text{ V} \\ E^0_{\text{Cl}_2/\text{Cl}^-} = 1,36 \text{ V} \end{array} \right.$$

$$U = ~~4,15 \text{ V}~~ 4,07 \text{ V}$$

plus Überspannung
0,08 V für Chlor an Pt!

$$\Rightarrow \underline{\underline{U = 4,15 \text{ V}}}$$

$$W = 4,15 \text{ V} \cdot 8,318 \cdot 10^{-11} \text{ C} = 3,42 \cdot 10^{-10} \text{ J} = \underline{\underline{3,42 \text{ T J}}}$$