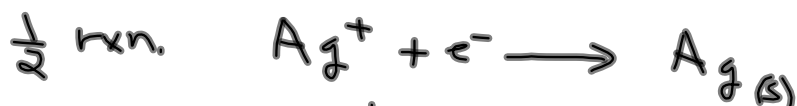


Faraday's Laws Continued

Example -

How much time is needed to deposit 15.8 g of silver using a 25.0 A current?



$$\text{a) } 15.8 \text{ g } \cancel{\text{Ag}} \times \frac{1 \text{ mol Ag}}{107.87 \text{ g } \cancel{\text{Ag}}} = 0.146 \text{ mol Ag}$$

$$\text{b) } 0.146 \text{ mol } \cancel{\text{Ag}} \times \frac{1 \text{ mole}^-}{1 \text{ mol } \cancel{\text{Ag}}} = 0.146 \text{ mole}^-$$

$$\text{c) } 0.146 \text{ mole}^- \times \frac{96500 \text{ coul.}}{1 \text{ mole}^-} = 14135 \text{ coul.}$$

Recall: $A = \frac{\text{coul.}}{\text{sec.}}$ or $\text{coul.} = A \cdot S$

$$\text{d) } 14135 \text{ coul.} \times \frac{1 \text{ A} \cdot \text{S}}{1 \text{ coul.}} = 14135 \text{ A} \cdot \text{S}$$

$$\text{e) } \frac{14135 \text{ A} \cdot \text{S}}{25 \text{ A}} = 565 \text{ S}$$