Faraday's Laws Continued

Example -

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

$\frac{1}{2}$ rxn. $Ag^+ + e^- \longrightarrow Ag_{(s)}$

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

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

c) $0.146\ mole^- \times \frac{96\,500\ coul.}{1\ mole^-} = 14\,135\ coul.$

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

d) $14\,135\ coul. \times \frac{1\ A\text{-}S}{1\ coul.} = 14135\ A \cdot S$

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