

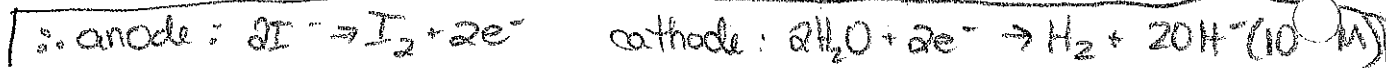
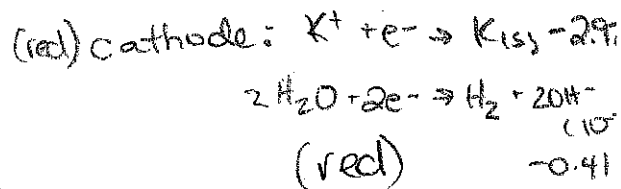
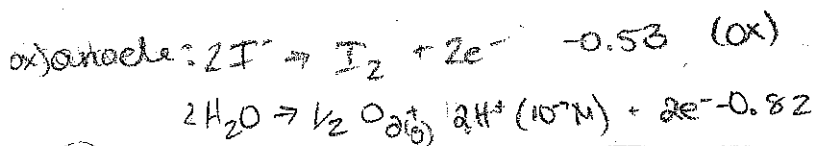
7.5 Electrolysis Assignment

1. What is the difference between an anode and a cathode in a electrolytic vs. an electrochemical cell?

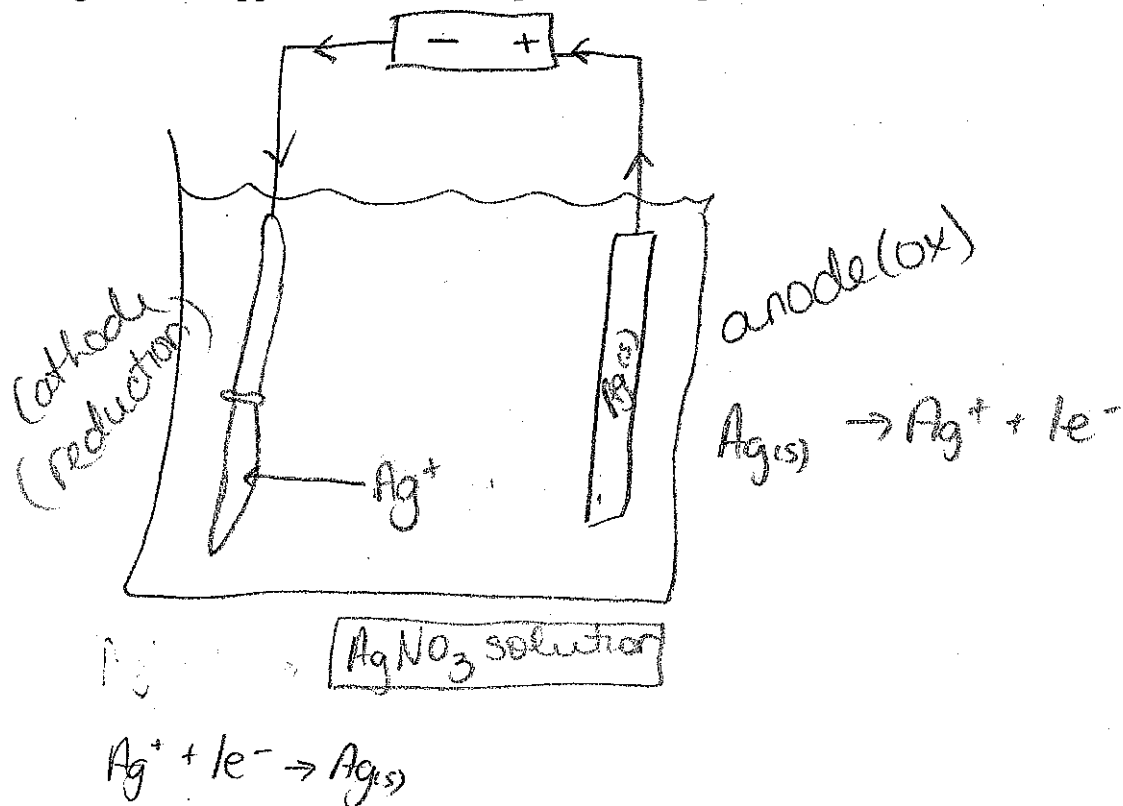
	anode	cathode
electrochemical cell	OX —	RED +
electrolytic cell	OX +	RED —

2. Predict the anode and cathode half reactions during the electrolysis of a 1.0M solution of $KI_{(aq)}$. Assume that inert electrodes are used.

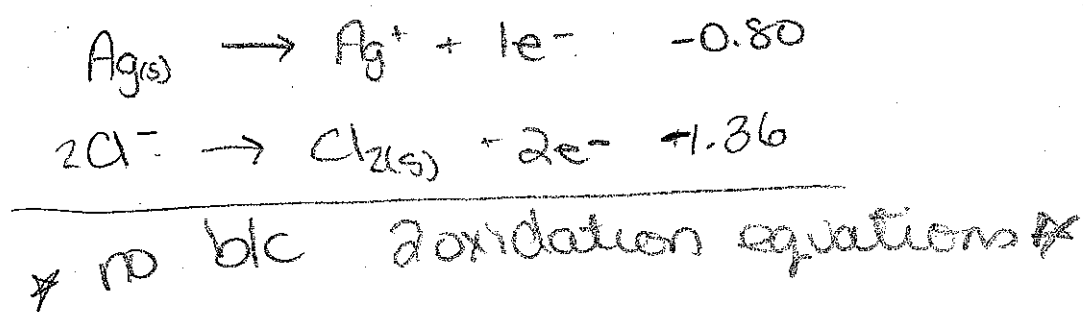
Species: K^+ , I^- , H_2O



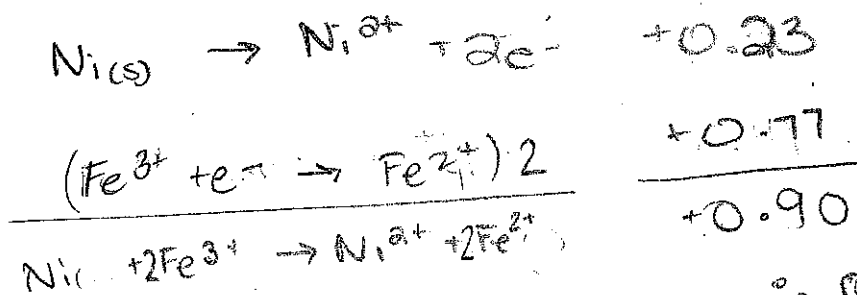
3. Draw a labelled diagram of an apparatus that would plate a nickel-plated knife with silver.



4. Will silver metal in a solution of chloride ions produce silver ions and chlorine gas? Explain.

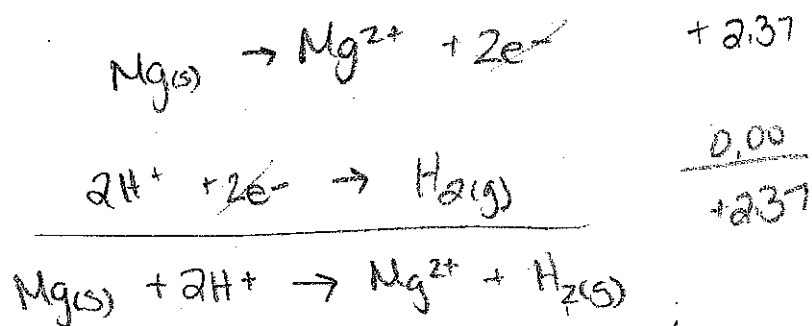


5. Can a 1M solution of iron (III) sulfate be stored in a container of nickel metal? Explain.



∴ reaction will occur
so cannot be stored.

6. How many grams of hydrogen gas would be produced from the oxidation of 5.00g of magnesium metal?



$$n = \frac{\text{wt}}{\text{mm}} = \frac{5.0\text{g}}{24.305\text{g/mol}} = 0.206 \text{ mol Mg(s)} = \text{mols H}_2$$

$$\text{wt} = n \cdot \text{mm} = (0.206 \text{ mol}) (2.02 \text{ g/mol}) = 0.416 \text{ g H}_2$$