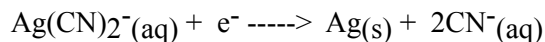


**Teacher's Tools® Chemistry**  
**Electrochemistry: Electrolysis: Worksheet 4**

1. 10.0 A is passed through molten aluminum chloride for 5.5 hours. How many grams of aluminum metal could be produced by this electrolysis?

- (A) 18.5 g      (B) 55.4 g      (C) 91.2 g      (D) 273 g

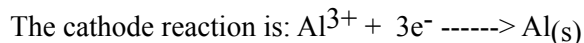
2. In the electroplating of silver from cyanide solution, the cathode reaction is:



How long would it take for 8.45 g of silver to be deposited by a current of 4.5 A?

- (A) 28.0 sec      (B) 28.0 min      (C) 1679 min      (D) 1679 hrs

3. Aluminum oxide may be electrolyzed at 1000°C to furnish aluminum metal.



To prepare 5.12 kg of aluminum metal by this method would require how many coulombs?

- (A)  $5.49 \times 10^7 \text{ C}$       (B)  $1.83 \times 10^7 \text{ C}$       (C)  $5.49 \times 10^4 \text{ C}$       (D)  $5.49 \times 10^1 \text{ C}$

4. In an electrolytic cell, a current of 0.250 ampere is passed through a solution of cadmium chloride.

(A) Write the equation for the half-reactions that occurs at the anode and cathode.

(B) When the cell operates for 2.00 hours under a current of 0.250 A, how much cadmium is deposited at cathode?

5. Use a table of standard reduction potentials to determine the reaction that would occur for the electrolysis of each of the following solutions.

(A) a solution of potassium iodide is electrolyzed.

(B) a solution of barium fluoride is electrolyzed.

(C) a solution of nickel bromide is electrolyzed.