Electrolytic cells worksheet 8

1) An iron door handle is to be copper plated. The handle has a surface area of 40.0 cm^2 and the external layer of copper must be 0. 552 mm thick.

   The handle and the electrolytic cell used are shown on the right.
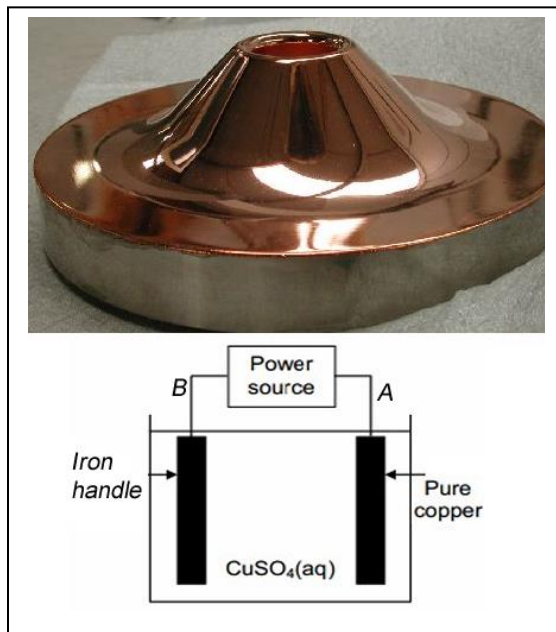   a) What is the polarity of electrodes
      A _____

      B _____

   b) Give the equation of the reaction taking place at the:
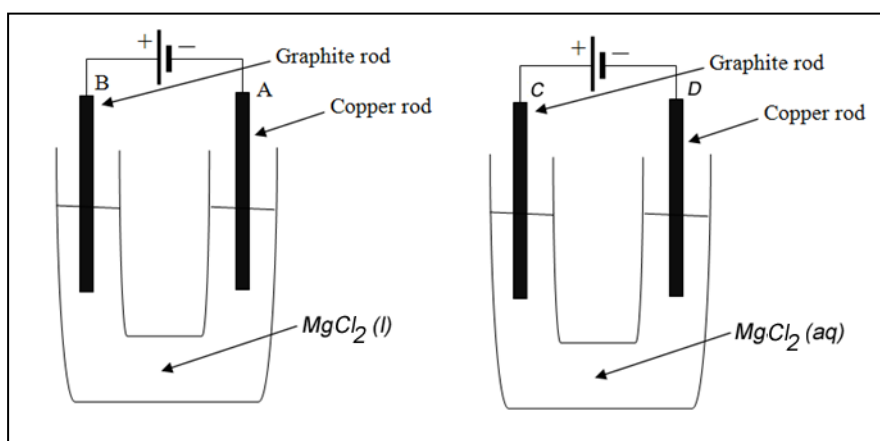   Anode _____

   Cathode _____

c) How long must the handle be placed in the electrolytic cell with an applied current of 1.25 amperes in order to plate the entire handle with the required amount of copper. Density of copper is 8.96g/cm^3.

d) What is the purpose of the electrolyte CuSO$_4$(aq)?

2) Consider the two electrolytic cells shown above. Give the products that form at each electrode.