**Galvanic Cells and Circuits Pre/Post-Quiz Answer Key**

**Instructions:** Choose the **ONE** choice that best answers the question.

1. Which of the following statements is true about a galvanic cell?
   1. oxidation occurs at the cathode and the cathode is positive.
   2. oxidation occurs at the anode and the anode is negative.
   3. reduction occurs at the cathode and the cathode is negative.
   4. reduction occurs at the anode and the anode is positive.
2. Which two reactants will lead to the greatest cell potential in a galvanic cell?
   1. lithium metal with fluoride ions
   2. fluorine gas with chloride ions
   3. zinc metal with silver ions
   4. potassium ions with lithium metal

(This can be determined using the location of the oxidant and reductant on the electrochemical series)

1. Which of the following statements is true about the salt bridge of a galvanic cell?
   1. positive ions flow into the anode half-cell, while negative ions flow in the other direction.
   2. electrons flow to complete a circuit.
   3. positive ions flow to the negative electrode, while electrons flow in the opposite direction.
   4. positive ions flow into the cathode half-cell, while negative ions flow in the other direction.
2. What current is flowing in a wire if 0.67 C of charge passes a point in the wire in 0.30 s?
   1. 0.67 A
   2. 0.20 A
   3. 0.30 A
   4. 2.20 A

I = Q / t

1. A light bulb operating at 110 V draws 1.40 A of current. What is its resistance?
   1. 109 Ω
   2. 12.7 Ω
   3. 78.6 Ω
   4. 154 Ω
2. What is one major difference between how a voltaic cell produces energy and how an electrolytic cell produces energy?

Answers will vary. One answer could be that voltaic and electrolytic cells are exact opposites of each other. A voltaic cell uses chemical reactions or chemical energy to produce electrical energy but an electrolytic cell uses electrical energy to produce chemical energy.