**Name: Period: Seat#:**

**Worksheet #1**

**Directions:** Use a reduction potential chart.
Find and copy the reduction equations for Ag+ 🡪 Ag0 and Pb2+ 🡪 Pb0 and then answer the following questions regarding these equations.

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| --- | --- |
| Silver reduction equation:  | Potential Value:E° =  |
| Lead reduction equation:  | Potential Value: E° =  |

|  |  |
| --- | --- |
| 1. Which metal ion has the greater reduction potential?
 | 1. If these two metals (and their solutions) were used to create a galvanic cell, which metal would be the anode?
 |
| 1. Write the reaction at the anode:
 | 1. Write the reaction at the cathode:
 |
| 1. What is the overall reaction?
 | 1. What would be the voltage of the standard electrochemical cell?
 |
| 1. How many moles of electrons are involved in this reaction? n =
 | 1. Find and copy down the Nernst Equation:
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| 1. If the standard cell is allowed to run until the [Ag+] = 0.50 M, the [Pb2+] = 2.0 M, the cell voltage will be **\_\_\_\_\_\_** (greater / less)? Justify your answer by comparing K and Q and explaining what that shows you.
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| 1. Use the Nernst equation to calculate the cell voltage with these new concentrations Did the cell voltage change in the direction you predicted in #9 ?
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