**Dougherty Valley HS AP Chemistry**

**WORKSHEET #1**

**Electrochemistry – Electrochemical cell**

**Name: Date: Period: Seat #:**

Show all work

Consider the reduction potential chart. Find and copy the reduction equations for Ag+ → Ag° and Pb2+ → Pb°

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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? | 2. If these two metals (and their solutions) were used to create a galvanic cell, which metal would be the anode? |
| 3. Write the reaction at the anode: | 4. Write the reaction at the cathode: |
| 5. What is the overall reaction? | 6. What would be the voltage of the standard electrochemical cell? |
| 7. How many moles of electrons are involved in this reaction? n = | 8. Find and copy down the Nernst Equation: |
| 9. 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)? |  |
| 10. Use the Nernst equation to calculate the cell voltage with these new concentrations |