

## Quiz 19.3 – The Nernst Equation

Name: \_\_\_\_\_

A cell is constructed which reduces  $\text{Pb}^{2+}$  to Pb and oxidizes Al to  $\text{Al}^{3+}$  and operated at  $25.00\text{ }^{\circ}\text{C}$

**Question 1**

Find  $E_{\text{cell}}^{\circ}$  for this cell

**Question 2**

Based on  $E_{\text{cell}}^{\circ}$ , find  $\Delta G^{\circ}$  for the reaction in this cell

**Question 3**

Based on  $E_{\text{cell}}^{\circ}$ , find  $K$  for the reaction in this cell

**Question 4**

Find  $E$  for this cell if the actual concentrations are:  $[\text{Pb}^{2+}] = 0.250\text{ M}$  and  $[\text{Al}^{3+}] = 0.125\text{ M}$

**Question 5**

Will the voltage increase or decrease if the cell is placed in the refrigerator?

*Good Bones*

By Maggie Smith

Life is short, though I keep this from my children.  
Life is short, and I've shortened mine  
in a thousand delicious, ill-advised ways,  
a thousand deliciously ill-advised ways  
I'll keep from my children. The world is at least  
fifty percent terrible, and that's a conservative  
estimate, though I keep this from my children.  
For every bird there is a stone thrown at a bird.  
For every loved child, a child broken, bagged,  
sunk in a lake. Life is short and the world  
is at least half terrible, and for every kind  
stranger, there is one who would break you,  
though I keep this from my children. I am trying  
to sell them the world. Any decent realtor,  
walking you through a real shithole, chirps on  
about good bones: This place could be beautiful,  
right? You could make this place beautiful.