NAME: **HONORS CHEMISTRY**

SECTION: Calculating Cell Potentials

In the following problems, two half-cells are connected at standard conditions to make an electrochemical cell. Refer to the table “Standard Electrode Potentials.”

1. Write the equation for each of the half-reactions that will occur, and label the oxidation and reduction half-reactions. Write the value of the standard electrode potential for each, with the proper sign.
2. Add the two half-reactions to obtain the overall equation, and calculate the voltage of the resulting cell.
   1. iron-iron(II) ion (Fe/Fe2+) and lead-lead(II) ion (Pb/Pb2+)
   2. chromium-chromium(III) ion (Cr/Cr3+) and rubidium-rubidium ion (Rb/Rb+)
   3. cobalt-cobalt ion (Co/Co2+) and nickel-nickel ion (Ni/Ni2+)
   4. copper-copper(I) ion (Cu/Cu+) and aluminum-aluminum ion (Al/Al3+)
   5. mercury-mercury(II) ion (Hg/Hg2+) and mercury-mercury(I) ion (Hg/Hg22+) Be careful!