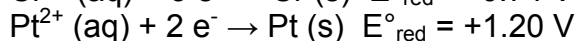
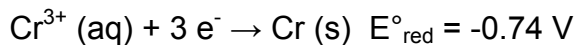
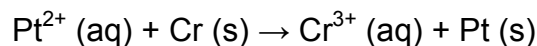
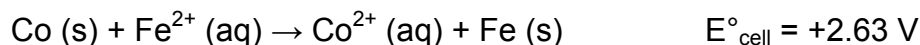


- 1) What is required to make an effective buffer solution?
- 2) What effect does a common ion have on the solubility of a salt?
- 3) What is the net ionic equation for a strong acid / strong base titration?
- 4) Know the basic rules for assigning oxidation numbers.
- 5) What is the relationship between cell potential, work, and spontaneity?
- 6) A buffer solution is prepared from 0.75 M HA ($K_a = 3.2 \times 10^{-7}$) and 0.15 M NaA. What is the pH of the solution?
- 7) How do you determine which indicator to use in a titration?
- 8) Be able to identify the distinguishing features of any titration curve.
- 9) What is the solubility product expression for Na_2CO_3 ?
- 10) What is the K_{sp} expression (in terms of molar solubility) for Na_2CO_3 ?
- 11) The molar solubility (s) of Na_2CO_3 is 4.7×10^{-5} M. Calculate the K_{sp} value.
- 12) Explain how the pH of a solution can affect the solubility of a salt.
- 13) What is the oxidation number of Sulfur (S) in HSO_4^- ?
- 14) In an electrochemical cell, how do you determine which side is the anode and which is the cathode?
- 15) What is the proper format for writing the cell notation?
- 16) Determine the cell potential for the following reaction.



- 17) Calculate the cell potential (E_{cell}) made from 0.72 M Co^{2+} and 0.07 M Fe^{2+} at 298 K.



- 18) How do you use Q and K_{sp} to determine precipitate formation?
- 19) Know how to balance electrochemical reactions in both acidic and basic solutions.
- 20) Explain the parts of a galvanic cell and what each part does.