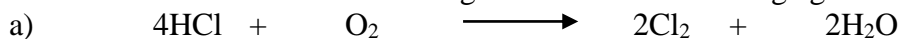


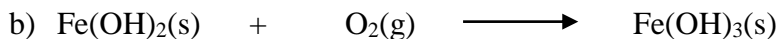
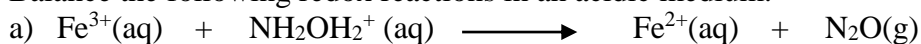
1) What is the oxidation number of the underlined element?



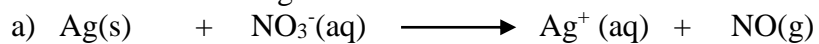
2) Which of the following elements is getting oxidized and which is getting reduced? Also indicate the elements is an oxidizing and which is a reducing agents the above reactions?



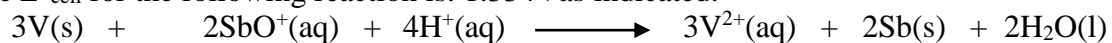
3) Balance the following redox reactions in an acidic medium.



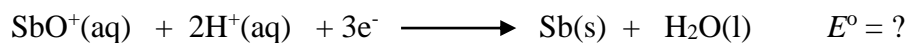
4) Balance the following redox reactions in a basic medium.



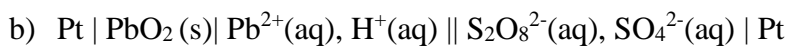
5) The  $E^{\circ}_{\text{cell}}$  for the following reaction is: 1.334V as indicated.



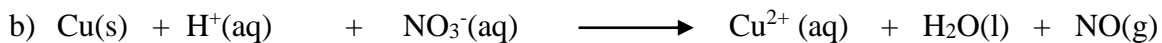
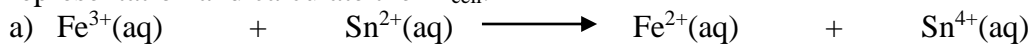
If reduction potential,  $E^{\circ}, \text{V}^{2+}_{(\text{aq})}/\text{V}_{(\text{s})} = -1.13\text{V}$ , then what is the  $E^{\circ}$  for the reaction below?



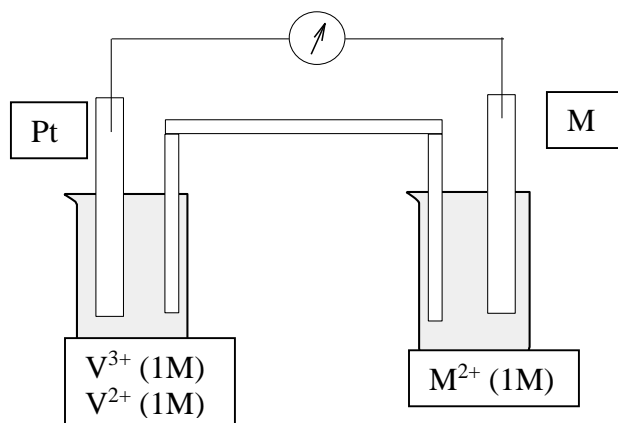
6) Write the equations for the half reactions and overall cell reaction and calculate the  $E^{\circ}_{\text{cell}}$  for each of the voltaic cells shown below.



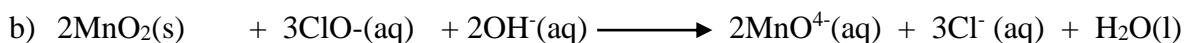
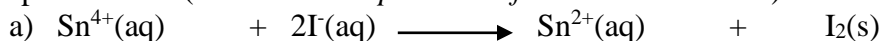
7) Write the half reactions for the following redox equations and show it in a voltaic cell representation and calculate the  $E^{\circ}_{\text{cell}}$ .



- 8) For the voltaic cell shown below, write an equation for the cell reaction that occurs and determine the voltage if the metal, M, is a) Sn and b) Zn. Are the reactions spontaneous?



- 9) Predict whether the following reactions will occur as written or no, i.e. if they are spontaneous. (Use the redox potentials from the data tables)



- 10) Are the following reactions possible – yes or no? (Use the redox potentials from the data tables)

