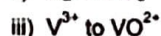
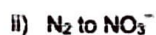


Balancing Redox Reactions Practice

Name Answer Key

Please write answers on a separate sheet of paper.

1) a) Write balanced half-equations for each of the following oxidation or reduction processes.



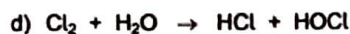
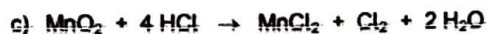
(6)

b) Write a redox equation for the reaction of H_2SO_4 with Br^- ions, producing S and Br_2 , using the half-equations from (a). Also state which species is oxidised, which is reduced, and the oxidising and reducing agents.

c) When concentrated nitric acid is added to copper metal, the copper is oxidised to oxidation state +2 and the nitric acid is reduced to nitrogen (IV) oxide. Derive half-equations and then write an equation for the reaction.

(Total 12)

2) State whether the following three reactions are redox reactions or not. For those that are redox reactions, clearly indicate any changes in oxidation state.



(7)

(Total 7)

3) a) Explain, in terms of electrons, what happens to oxidising and reducing agents in reactions.

(1)

b) Using these definitions, explain which species is oxidised and which is reduced, and the oxidising and reducing agent in reaction below.

(2)



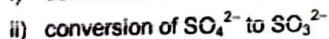
c) What is the oxidation state of each element in the following species:



(9)

(Total 12)

4) a) For each of the following reduction or oxidation processes write a half equation.



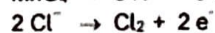
(5)

b) Use your half-equations to write a redox equation for the reaction of IO_3^- with I^- to form I_2 .

(1)

(Total 6)

5) Write redox equations for the following reactions using the half-equations provided.



a) Reaction of acidified MnO_4^- and Cl^- .

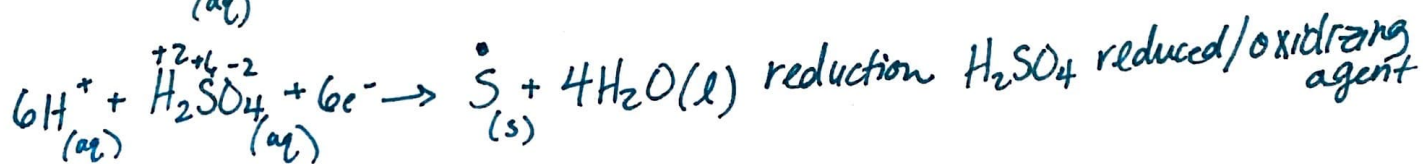
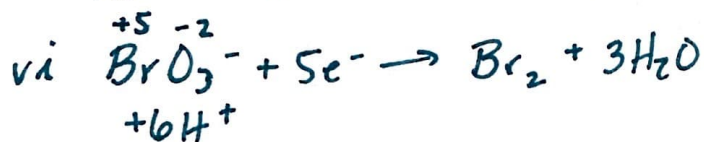
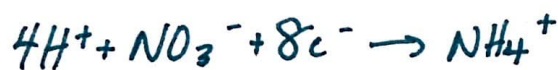
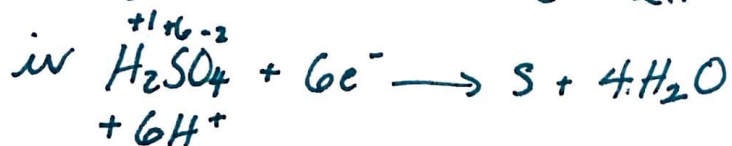
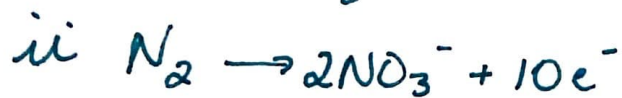
(1)

b) Reaction of acidified MnO_4^- and Cr^{3+} .

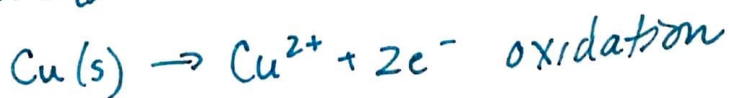
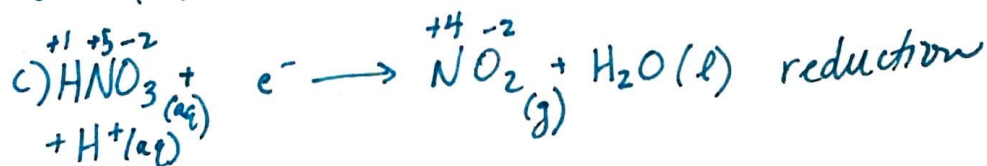
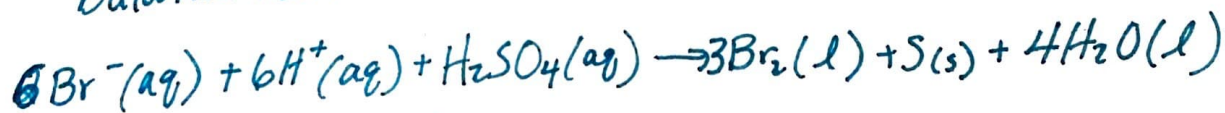
(1)

(Total 2)

Balancing Redox Rxns Answer Key

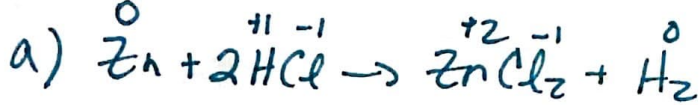


balanced redox rxn:

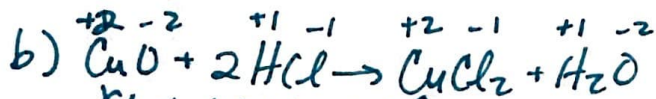


balanced redox rxn:

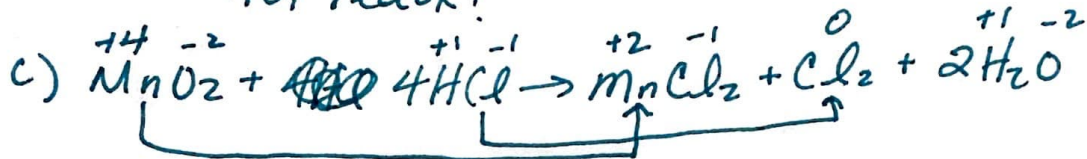




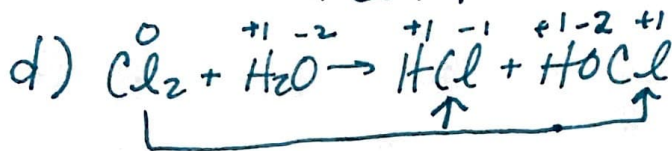
redox!



~~redox!~~
not redox!



redox!



redox!
disproportionation rxn !!

3) oxidizing agents get reduced = accept e^-
 a) reducing agents get oxidized = donate e^-

