

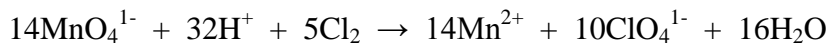
CHEM 1210

Optional Quiz version 1

Redox, equivalents and electrochemistry

Name: _____

1) Given the following balanced redox reaction:



a) How many electrons are transferred in the reaction? _____

b) What is the reduction agent? _____

c) 100.0 mg of Cl_2 reacts with 25.8 mL of KMnO_4 solution, what is the normality of the KMnO_4 solution.

2) An electrochemical cell is made by immersing a piece of Cd metal into a solution of 0.100 M CdSO_4 and a Zn electrode into a solution of 1.00 M ZnSO_4 and placing a salt bridge to allow ion flow between the two solutions.

The reduction potential for Cd is -0.403 V and for Zn is -0.762 V

a) Write the standard cell notation for the functional galvanic cell.

b) Determine the cell voltage for the given conditions.

c) Determine the equilibrium constant for the reaction.

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3) a) How much time is required to plate 1.00 g of silver metal from a 1.00 M solution of AgNO_3 using a current of 2.50 A?

b) How does the amount of time required change if the AgNO_3 solution is 2.00 M?

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