CHEM 1210
Quiz 2
February 27th, 2014   Name: _____

1) **(2 marks)** Which of the following salts has the greatest molar solubility?

        A - AgCl $K_{sp} = 1.8 \times 10^{-10}$
        B - CaF$_2$ $K_{sp} = 3.2 \times 10^{-11}$
        C - CuCO$_3$ $K_{sp} = 3 \times 10^{-12}$
        D - Mg$_3$(PO$_4$)$_3$ $K_{sp} = 5.2 \times 10^{-24}$ _____

2) **(2 marks)** The pH of Mn(OH)$_2$ at 25°C is 9.53, determine the K_{sp} of Mn(OH)$_2$

3) Cu(s) | Cu^{2+}(aq)(0.50 M) || ClO$_3^{1-}$(aq)(0.35 M), H^{1+}(aq)(1.0 M) | Cl$_2$(g)(0.75 atm) | Pt(s)

E^o_{cell} = 1.133 V

a) **(2 marks)** Write the balanced chemical equation for the reaction happening in the cell?

b) **(2 marks)** Determine E_{cell} for the given conditions.

c) **(1 mark)** If E^o_{red} for Cu^{2+} is 0.337 V, what is E^o_{red} for ClO$_3^{1-}$?