Take Home Exam Ch 19-21, 24 AP Chemistry (40 pts)

Name:

I have neither given nor received aid on this exam, except from my group; list names if applicable:

Period: 1 2 3 4 Date: 4/12/06

Complete in pencil; erase mistakes completely. If you need more space, attach further sheets as is necessary. For problems involving calculations, <u>no credit will be given if work is not shown</u>.

1. Using the following data, calculate the value of K_{sp} for Ba(NO₃)₂.

$$\Delta G_{f}^{o}(kJ/mol)$$
:

$$Ba^{2+}(aq) = -561$$

$$NO_3$$
 (aq) = -109

$$Ba(NO_3)_2(s) = -797$$

$$K_{sp} =$$

2. Balanced the following reaction; show your work! Then, calculate E°_{cell} for the reaction. Use the values in Appendix E of your textbook.

$$Fe(s) + MnO_4(aq) \rightarrow Fe^{2+}(aq) + Mn^{2+}(aq)$$

Balanced reaction:

$$E^{o}_{cell} =$$

3. If the atomic mass of 56 Fe is 55.9349, determine the nuclear binding energy per nucleon. Given: mass of proton, $m_p = 1.67262 \times 10^{-27} \text{ kg}$

mass of proton, $m_p = 1.67262 \times 10^{-27} \text{ kg}$ mass of neutron, $m_n = 1.67493 \times 10^{-27} \text{ kg}$ mass of electron, $m_e = 9.10939 \times 10^{-31} \text{ kg}$

4.	produc	t the products of the following reactions. Write net ionic equations, assuming that each ces one insoluble neutral coordination compound. Then name the coordination compound. Aqueous silver nitrate is added to a solution of potassium cyanide.
	b.	A solution of platinum (II) acetate is added to a solution of sodium hydroxide.
	c.	Solid ferric sulfate is added to a solution of aqueous ammonia.