Chemistry 1501, Dr. Hunter

Spring 2007

Final Exam (Exam # 4) - (Group Part)

Name:_____,_____ Signature:_____

Name:_____,_____ Signature:_____

Name:_____,_____ Signature:_____

Name:_____,_____ Signature:_____

Name:_____,_____ Signature:_____

Last name **First** name

The group portion of this exam has this title page plus three pages of questions. Please make sure you have all pages. Place the names (last name first) and signatures of each group member above. *Initial each page of the exam in the top right hand corner* using the initials of the all group members so that if your exam pages get separated I can match them to your group.

To obtain maximum credit for each question, show your work in detail. Partial credit for questions will not be assigned if no work is shown. **Indeed, no credit will be granted if complete work is not shown *even for correct answers*.** Feel free to use pictures/diagrams to illustrate your text answers and/or to use short text explanations to explain your drawings if your pictures are ambiguous. If you have to make assumptions, etc., to complete any answers, write me a short note stating and/or explaining your assumptions and testing them to the degree possible.

You have 90 minutes for the group part of this exam. The twenty points for the group part of this exam correspond to 19% of the 200 points for this course. Together, the group and individual parts of this exam are worth ¼ of the total course grade.

Grade /38 (group grade)

1 (12 points total). A solution of 0.60 moles of H_2SO_4 in water was made that had a total volume of 1.2 liters. Showing all of your work, calculate the $[H^+]$, the $[OH^-]$, the pH, and the pOH of this solution.

2 (12 points total). A solution of 1.02×10^{-3} moles of KOH in water was made giving a total volume of 1.2 milliliters. Showing all of your work, calculate the $[H^+]$, the $[OH^-]$, the pH, and the pOH of this solution.

3 (14 points total). To a glass bottle of water was added 2.301 grams of $Ca(OH)_2$ and this was stirred to give a solution having a total volume of 1,200 milliliters. Showing all of your work, calculate the $[H^+]$, the $[OH^-]$, the pH, and the pOH.