

AP Chemistry Final Exam
Version M
Fall 2005

3 Free Response questions, 45 minutes

CALCULATORS MAY BE USED. You will also have a periodic table, equation sheets, and the standard reduction potential table.

Clearly show the method used and the steps involved in arriving at your answers. It is to your advantage to do this, since you may obtain partial credit if you do and you will receive little or no credit if you do not. Attention should be paid to significant figures.

Note: For all questions, assume that the temperature is 298 K, the pressure is 1.00 atmospheres, and solutions are aqueous unless otherwise specified.

Record all your work on this exam; you will only be given credit for answers showing work.

NAME:

PERIOD: 1 2 3 4

January 10-12, 2006

SCORE: $\frac{\text{Correct}}{\text{Correct}} - \frac{\text{Incorrect}}{\text{Incorrect}}/4 = \frac{\text{M.C. Total}}{\text{M.C. Total}}$

Blank

F.R. Total

Raw Score

+ Curve

Overall

3. (12 pts) Using basic principles of structure and bonding, explain the following differences, making sure to refer to each of the substances or situations.
- (3 pts) KCl has a higher melting point than KI.
 - (3 pts) The first ionization energy of Ar is smaller than the first ionization energy of Ne.
 - (3 pts) The carbon-carbon bond energy in benzene is not equal to the bond energy associated with a carbon-carbon single bond, nor that of a carbon-carbon double bond.
 - (3 pts) A 0.10-molal aqueous solution of calcium hydroxide has a higher boiling point than a 0.10-molal aqueous solution of magnesium hydroxide.