

General Chemistry I
Problem Set 1
Due Friday, September 17, 2004 (at 5 p.m.)

For the math problems, remember to show in writing the process by which you have obtained your answers. (Also do so for the short answer problems when you are told to.) Your explanations should be clear and concise. Final numerical answers must contain the correct number of significant figures (see pp. 27-30 of Silberberg for rules) and have the right physical units attached to receive full credit.

1. Problem 7.8 (5 points)
2. Problem 7.10 (5 points)
3. Problem 7.32 (10 points)
4. Problem 7.50 (5 points)
5. Problem 7.56 (5 points). "Sublevel designation" means labeling the sublevel (or subshell) by both its principal quantum number and the letter corresponding to its angular momentum quantum number.
6. Problem 7.60 (5 points). For each correction you propose, you should change only one of the quantum numbers.
7. Problem 7.70 (5 points). Remember that the units for the work function should actually be J particle⁻¹.