

Accelerated General Chemistry
Problem Set 11
Due Monday, November 24, 2008 (at 4:00 p.m.)
(note change in date from syllabus)
Total Points on This Assignment = 64

1. (6 points) Hanson and Green Problem 9.1. Briefly explain your answers.
2. (3 points) Problem 9.6
3. (9 points) Problem 9.11
4. (6 points) Problem 9.14 (a) and (c). Note that the units of ΔH and ΔU should be kJ mol^{-1} , not merely kJ!
5. (8 points) Problem 10.3. Justify your answer to part (c).
6. (20 points) IMT Problem 10.8 (a), (b), and (c). You must calculate the crossing temperatures.
7. (12 points) IMT Problem 10.16 (c) and (d). Comments: (1) You should assume that you have 1.000 g of water (*i.e.*, the mass is known to four significant figures). (2) Assume that each temperature is known to the nearest 1°C . (3) I will tell you that $\Delta S_{\text{universe}} = 0$ at 100°C . (The original intent of the problem was to determine this temperature by fitting a straight line to a plot of $\Delta S_{\text{universe}}$ vs. T .)