

To: Andy, Ben, Kevin, Matt and Tyler
From: John I. Gelder
Date: September 8, 2001
Re: Grading PS2

STAFF MEETINGS...FRIDAYS, 3:30 p.m.

The answers to PS #2 are attached. After reviewing the problem sets I have decided we should grade problems PS2.2, PS2.6, and PS2.7 for 3 points. The maximum possible on the problem set is twelve points. The remaining three points are awarded on an all or nothing basis for completion of the remaining problems. Note: If the word 'Late' is written at the top of the Problem Set grade as usual but deduct 3 points from their total. Note: 'Late' means the student found me at the end of class or immediately after class. I will not accept Problem Sets more than a few minutes after class is over, and such cases will have a minimum of 3 points deducted from their score.

If you have any questions about the grading procedure described below, please see me. Please do not assign any fractional points. Use a holistic approach, if the student's answer is not quite correct you must make the decision if it is at least half right in which case give the student the point. However, on the next occasion (in the same grading session) that you have to stop and ask yourself whether the student should receive the benefit of the doubt, do not give them the point. Reverse this procedure if for the first time you decide not to give them the benefit of the doubt, the next occasion give them the point.

Please return the graded problem sets to your students in laboratory next week. Be sure to record the scores for each student.

Copies of the answers and the grading memo are on the WEB.

Grading the Review Problem Set

- PS2.2 **3 points** 1 point each for part a, b and c. The first point for the correct volume occupied by the CS_2 . In part b, no explanation is required just the pressure. But for students who only provide an answer write Why? On their paper. The same for part c. Only a pressure is required. Student may use a different form of the ideal gas equation to calculate the pressure. What out they do not confuse the pressure (298 mmHg) with a temperature. Point it out to the student put do not deduct a point for that error. Any major math error in a or c, deduct the point.
- PS2.6 **3 points** Grade parts a, b and c for one point each. Molar mass is not an explanation for any of these pairs of substances. If molar mass is the only explanation offered deduct a point. In a if the explanation only uses polarizability (more electrons) as the reason award the point, but indicate OCS is also polar. Dispersion forces are the more important force in OCS, we should not forget it is also polar. In c, suggesting that KCl has more electrons, therefore a higher boiling point is the wrong reason. Deduct the point for such an explanation.
- PS2.7 **3 points.** 2 point each for part a and 1 point b. In part a award 1 point for indicating NH_3 has hydrogen bonding and therefore the higher boiling point. Award the seond point for stating that CH_4 only has dispersion forces. If the student does not mention that methane has only dispersion forces deduct 1 point. In part b award 1 point for the answer. If the student does not indicate both ethane and hexane have dispersion forces, or at least strongly imply, write a comment. But award the point for the correct reason; more electrons in exane, more polarizable, stronger dispersion force, higher boiling point.
- 3 points** For attempting the remaining 7 problems. Remember each problem must have an answer, an attempt. If the student writes nonsense for any of the other answers deduct the 3 points.

