

Touro College. Guide to lecture test 1 in chemistry 2.

Question 1 deals with which solutes dissolve best in which solvents.

2 to 4 are simple molarity problems.

5 Is a mole fraction calculation.

6. Asks which of a group of solutions would have the lowest freezing point.

7. Is a Raoult's Law calculation.

8. Deals with solubility rules for gases in liquids.

9 - 10. Find the rate constant in first and second order reactions.

11. Rate Law from mechanism.

12. Identifying an intermediate or catalyst.

13. Effect of change in volume on rate for a given rate law.

14. Units of rate constants.

15. Using first law equation to find time required to reach a given concentration.

16. Finding K_c from given equilibrium concentrations. (what I call type 1)

17. Finding K_c using an ICE chart.

18. Given the K for two reactions, find K for a third reaction.

19. Relating K for forward and reverse reactions.

20. What dissolves best in what.

21. Determination of molality

22. Relating vapor pressure with attractive forces.

23. Effect of external pressure on boiling points.

24. Relationship between temperature and vapor pressure

25 - 27. Phase diagram.

Problem 1. Given one of the methods of expressing concentration, (% , molality, molarity, mole fraction) find the other 3. Use Raoult's law to find a vapor pressure. Find the boiling point of the solution, given K_b .

II. Using freezing point depression information to find molality and molar mass of solute. (K_f is given)

III. Type II - determination of K_p given initial pressures, and one final pressure.

IV. First and second order kinetics problem.

V. Initial rates problem. Like the "harder" one we did in class, but with simpler numbers.