Name_____

Henry's Law Worksheet

Apply Henry's Law to solve the following problems.
You may use the following formula:

$$\frac{S_1}{P_1} = \frac{S_2}{P_2}$$

S_1 is the solubility of gas at pressure P_1
S_2 is the solubility of gas at pressure P_2

(1) If 0.24 g of a gas dissolves in 1.0L of water at 1.5 atm of pressure, how much of the gas will dissolve if the pressure is raised to 6.0 atm? Assume the temperature is held constant.

(2) A gas has a solubility of 0.086 g/L at a pressure of 3.5 atm. At what pressure would its solubility be 2.3 g/L?

(3) The solubility of a gas changes from 0.95 g/L to 0.72 g/L. If the initial pressure was 2.8 atm, what is the final pressure?

Colligative Properties Worksheet

1) If I add 45 grams of sodium chloride to 500 grams of water, what will the melting and boiling points be of the resulting solution? $K_b(H_2O) = 0.52\ ^0C/m$ and $K_f(H_2O) = 1.86\ ^0C/m$.

2) What is the vapor pressure of the solution in problem #1 at 25^0 C? The vapor pressure of pure water at 25^0C is 3.17 kPa.

3) Which solution will have a higher boiling point: A solution containing 105 grams of sucrose ($C_{12}H_{22}O_{11}$) in 500 grams of water or a solution containing 35 grams of sodium chloride in 500 grams of water?