

# Exam #1 Objectives



## CHEM 1100 General Chemistry II

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### Text Reading

Chapter 13: sections 1-6

### Homework Assignment

McGraw-Hill LearnSmart and Connect online assignments.

### Concepts

1. Diagram and discuss the solution process.
2. Convert between molarity, molality, mass fraction, and mass percent.
3. Use Henry's law in calculations.
4. Calculate vapor pressure using Raoult's law.
5. Demonstrate the ability to do calculations based on freezing point depression and boiling point elevation.
6. Demonstrate the ability to do calculations using osmotic pressure.
7. Discuss the implications of the van't Hoff factor and use it in calculations.
8. Demonstrate a working vocabulary of the following terms:

boiling point elevation	hydration energy	nonelectrolyte
colligative properties	mass fraction	osmosis
freezing point depression	mass percent	osmotic pressure
heat of solution	molality	Raoult's law
Henry's law	molarity	solvation energy
ideal solution	mole fraction	van't Hoff factor

9. Memorize and demonstrate the ability to use the following equation(s):

$$c = kP$$

$$P_1 = X_1 P_1^0$$

$$P_T = P_1 + P_2 + \dots$$

$$\Delta T_f = K_f m$$

$$\Delta T_b = K_b m$$

$$\pi = MRT$$

$$i = \frac{\Delta T_{\text{exp}}}{\Delta T_{\text{calc}}}$$