

Exam 2 Practice Problems
Chem 60 (Chapters 5 & 6)

This is NOT a comprehensive study guide for the exam, but includes some topics you may need to review.

1. Complete the following table and show your work below.

Mass solute	Volume solution	Concentration %(w/v)
15.5 g	253.6 mL	
	22.8 mL	12.0 %
183.3 g		6.25 %

2. Complete the following table and show your work below.

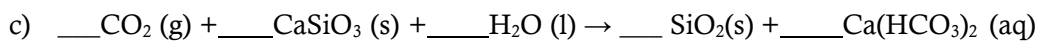
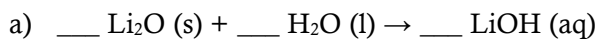
Solute	Mass Solute	Moles Solute	Volume Solution	Molarity
KNO ₃	22.5 g		125.0 mL	
NaHCO ₃			250.0 mL	0.100 M
CH ₃ OH	12.5 g			0.500 M

5. How many grams of K_2CO_3 are in 750 mL of a 3.5% (w/v) K_2CO_3 solution?

6. A 158 mL sample of a 1.2 mol/L sucrose solution is diluted to 500.0 mL. What is the molarity of the diluted solution?

7. How many L of a 3.0 mol/L solution of NaCl are needed to make 15.0 L of 0.15 mol/L saline?

8. Balance the following reactions:



9. Gases: in each of the following situations, the properties of a gas are changing. Indicate whether each property will **increase**, **decrease** or **remain constant**:

Inflating a beach ball:

Pressure _____ Moles _____ Volume _____ Temperature _____

Propane tank valve is opened to grill a steak: (consider the gas inside the tank)

Pressure _____ Moles _____ Volume _____ Temperature _____