

Concentration Quiz Review - make your notecard as you work! Do this review neatly on looseleaf.

- 1) 3.00 grams of NaCl are added to 120.0 mL of H₂O. The final volume of the solution is 121.5 mL.
- a) Find molarity b) Find density c) Find percent NaCl by mass d) Find mole fraction of H₂O
- 2) If you added pure water to dilute the solution in #1, and ended up with a new volume of 200.0 mL, what would the molarity of the dilute solution be?
- 3) You add 1.50 g of LiBr to water to make a solution with a total volume of 50.0 mL. What is your molarity?
- 4) You add 5.00 grams of zinc metal to 35 mL of a HCl solution. After the reaction is done, you only have 4.80 grams of zinc remaining in the solution.
- a) Write a balanced equation.
b) Find the molarity of the HCl.
- 5) How many grams of LiBr are in 125 mL of a 2.0 M solution?
- 6) How many moles of LiBr are in 500. mL of a 4.4 M solution?
- 7) You add 5.00 grams of Al to 200. mL of HCl. When the reaction is done, you only have 4.00 grams of Al remaining.
- a) Write a balanced equation for this reaction.
a) Which reactant is the excess reactant? Why?
b) Which reactant is the limiting reactant?
c) Find the molarity of the HCl. Use will need to use the equation for the mole ratio step.
- 8) An alloy of brass is made from 31.8 grams of copper and 32.7 grams of zinc, both of which are in the solid phase.
- a) Which substance is the solute? Why?
b) Find the molality of the copper.
c) Find the mass percent of the copper.
d) Find the mole fraction of the copper

Selected Answers:

- 1.a) 0.423 M NaCl b) 1.012 g/mL c) 2.44% NaCl by mass d) 0.992 mole fraction H₂O
- 2) $M_2 = 0.26$ M 3) 0.345 M LiBr 4b) 0.17 M HCl 5) 21.7 g 6) 2.2 moles
- 7c) 0.556 M HCl 8b) 15.3 m Cu 8c) 49.3 % Cu 8d) 0.500