

Name _____

Concentration Problems.

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- _____ 1) How many total moles of KNO_3 must be dissolved in water to make 1.5 liters of a 2.0 M solution?
1) 0.50 mol 2) 2.0 mol 3) 3.0 mol 4) 1.3 mol
- _____ 2) What is the concentration of an aqueous solution that contains 1.5 moles of NaCl in 500 milliliters of this solution?
1) 0.30 M 2) 0.75 M 3) 3.0 M 4) 7.5 M
- _____ 3) What is the molarity of 1.5 liters of an aqueous solution that contains 52 grams of lithium fluoride, LiF , (gram-formula mass = 26 grams/mole)?
1) 1.3 M 2) 2.0 M 3) 3.0 M 4) 0.75 M
- _____ 4) What is the total number of grams of HI in 0.500 liter of 1.00 M HI ?
1) 1.00 g 2) 0.500 g 3) 64.0 g 4) 128 g
- _____ 5) What is the concentration expressed in parts per million of a solution containing 5.0 grams of NH_4Cl in 95.0 grams of H_2O ?
1) 5.0×10^4 ppm 2) 2.0×10^7 ppm 3) 5.3×10^4 ppm 4) 1.9×10^7 ppm
- _____ 6) What is the percent by mass of NaBr if 23.5 grams are dissolved in 250. grams of water?
1) 9.4% 2) 10.6% 3) 8.6% 4) 13.%
- _____ 7) A 2400.-gram sample of an aqueous solution contains 0.012 gram of NH_3 . What is the concentration of NH_3 in the solution, expressed as parts per million?
1) 5.0 ppm 2) 15 ppm 3) 20. ppm 4) 50. ppm
- _____ 8) What is the total mass of solute in 1000. grams of a solution having a concentration of 5 parts per million?
1) 0.005 g 2) 0.05g 3) 0.5 g 4) 5g
- _____ 9) How many grams of $\text{C}_6\text{H}_{12}\text{O}_6$ are needed to be dissolved in water to make 100. grams of a 250. ppm solution?
1) 4.00×10^5 g 2) 2.50×10^4 g 3) 4.00×10^{-1} g 4) 2.50×10^{-2} g
- _____ 10) Which solution is the most concentrated?
1) 1 mole of solute dissolved in 1 liter of solution
2) 2 moles of solute dissolved in 3 liters of solution
3) 6 moles of solute dissolved in 4 liters of solution
4) 4 moles of solute dissolved in 8 liters of solution
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