

EXTRA PRACTICE: Molarity Practice #2

Name: _____

Molarity Practice Problems

- 1) How many grams of potassium carbonate are needed to make 200 mL of a 2.5 M solution?
- 2) How many liters of 4 M solution can be made using 100 grams of lithium bromide?
- 3) What is the concentration of a 450 mL solution that contains 200 grams of iron (II) chloride?
- 4) How many grams of ammonium sulfate are needed to make a 0.25 M solution at a concentration of 6 M?
- 5) What is the concentration of a solution that has a volume of 2.5 L and contains 660 grams of calcium phosphate?
- 6) How many grams of copper (II) fluoride are needed to make 6.7 liters of a 1.2 M solution?
- 7) How many liters of 0.88 M solution can be made with 25.5 grams of lithium fluoride?
- 8) What is the concentration of a solution that with a volume of 660 that contains 33.4 grams of aluminum acetate?
- 9) How many liters of 0.75 M solution can be made using 75 grams of lead (II) oxide?
- 10) How many grams of manganese (IV) oxide are needed to make a 5.6 liters of a 2.1 M solution?
- 11) What is the concentration of a solution with a volume of 9 mL that contains 2 grams of iron (III) hydroxide?
- 12) How many liters of 3.4 M solution can be made using 78 grams of isopropanol (C₃H₈O)?
- 13) What is the concentration of a solution with a volume of 3.3 mL that contains 12 grams of ammonium sulfite?

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Molarity Calculations

Calculate the molarities of the following solutions:

- 1) 2.3 moles of sodium chloride in 0.45 liters of solution.
- 2) 1.2 moles of calcium carbonate in 1.22 liters of solution.
- 3) 0.09 moles of sodium sulfate in 12 mL of solution.
- 4) 0.75 moles of lithium fluoride in 65 mL of solution.
- 5) 0.8 moles of magnesium acetate in 5 liters of solution.
- 6) 120 grams of calcium nitrite in 240 mL of solution.
- 7) 98 grams of sodium hydroxide in 2.2 liters of solution.
- 8) 1.2 grams of hydrochloric acid in 25 mL of solution.
- 9) 45 grams of ammonia in 0.75 L of solution.

Explain how you would make the following solutions. You should tell how many grams of the substance you need to make the solution, not how many moles.

- 10) 2 L of 6 M HCl
- 11) 1.5 L of 2 M NaOH
- 12) 0.75 L of 0.25 M Na_2SO_4
- 13) 45 mL of 0.12 M sodium carbonate
- 14) 250 mL of 0.75 M lithium nitrite
- 15) 56 mL of 1.1 M iron (II) phosphate
- 16) 6.7 L of 4.5 M ammonium nitrate
- 17) 4.5 mL of 0.05 M magnesium sulfate
- 18) 90 mL of 1.2 M BF_3