

## 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 4.0 M solution can be made using 100. grams of lithium bromide?
- 3) What is the concentration of an aqueous solution with a volume of 450. mL that contains 200. grams of iron (II) chloride?
- 4) How many grams of ammonium sulfate are needed to make 0.25 L of solution at a concentration of 6.0 M?
- 5) What is the concentration of a solution with a volume of 2.5 liters containing 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 a 0.88 M solution can be made with 25.5 grams of lithium fluoride?
  
- 8) What is the concentration of a solution with a volume of 660 mL that contains 33.4 grams of aluminum acetate?
  
- 9) How many liters of a 0.75 M solution can be made with 75 grams of lead (II) oxide?
  
- 10) How many grams of manganese (IV) oxide are needed to make 5.6 liters of a 2.1 M solution?
  
- 11) What is the concentration of a solution with a volume of 9.0 mL that contains 2.0 grams of iron (III) hydroxide?
  
- 12) How many liters of a 3.4 M isopropanol solution can be made with 78 grams of isopropanol (C<sub>3</sub>H<sub>8</sub>O)?
  
- 13) What is the concentration of a solution with a volume 3.3 mL that contains 12 grams of ammonium sulfite?

## Molarity Practice Problems – Answer Key

- 1) How many grams of potassium carbonate are needed to make 200 mL of a 2.5 M solution? **69 grams**
- 2) How many liters of 4 M solution can be made using 100 grams of lithium bromide? **0.29 L**
- 3) What is the concentration of an aqueous solution with a volume of 450 mL that contains 200 grams of iron (II) chloride? **3.51 M**
- 4) How many grams of ammonium sulfate are needed to make 0.25 L of solution at a concentration of 6 M? **198 (2.0E2) grams**
- 5) What is the concentration of a solution with a volume of 2.5 liters containing 660 grams of calcium phosphate? **0.85 M**
- 6) How many grams of copper (II) fluoride are needed to make 6.7 liters of a 1.2 M solution? **820 grams**
- 7) How many liters of a 0.88 M solution can be made with 25.5 grams of lithium fluoride? **1.1 L**
- 8) What is the concentration of a solution with a volume of 660 mL that contains 33.4 grams of aluminum acetate? **0.25 M**
- 9) How many liters of a 0.75 M solution can be made with 75 grams of lead (II) oxide? **0.45 L**
- 10) How many grams of manganese (IV) oxide are needed to make 5.6 liters of a 2.1 M solution? **1.0 E 3 grams**
- 11) What is the concentration of a solution with a volume of 9 mL that contains 2 grams of iron (III) hydroxide? **2.1 M**
- 12) How many liters of a 3.4 M isopropanol solution can be made with 78 grams of isopropanol (C<sub>3</sub>H<sub>8</sub>O)? **0.38 L**
- 13) What is the concentration of a solution with a volume 3.3 mL that contains 12 grams of ammonium sulfite? **31 M**