

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 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 a 0.25 M solution at a concentration of 6 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 mL that contains 2 grams of iron (III) hydroxide?

- 12) How many liters of a 3.4 M isopropanol solution can be made with 78 grams of isopropanol (C₃H₈O)?

- 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? **69.1 grams**
- 2) How many liters of 4 M solution can be made using 100 grams of lithium bromide? **3.47 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 a 0.25 M solution at a concentration of 6 M? **171.2 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? **1081.4 grams**
- 7) How many liters of a 0.88 M solution can be made with 25.5 grams of lithium fluoride? **1.11 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? **12.6 grams**
- 10) How many grams of manganese (IV) oxide are needed to make 5.6 liters of a 2.1 M solution? **1021.9 grams**
- 11) What is the concentration of a solution with a volume of 9 mL that contains 2 grams of iron (III) hydroxide? **2.08 M**
- 12) How many liters of a 3.4 M isopropanol solution can be made with 78 grams of isopropanol (C₃H₈O)? **0.41 L**
- 13) What is the concentration of a solution with a volume 3.3 mL that contains 12 grams of ammonium sulfite? **31.3 M**