Molarity Practice

Name: _____ Period: _____ Date: _____

Necessary equations:

Mol = grams / molar mass; 1000 ml = 1L(ml = milliliter, L=liter); Molarity: mol of solute /Liters of solvent

Molarity is also expressed as M. therefore, M= mol/L.

1. How many moles of sodium nitrate are required to make 0.5L of a 0.2M solution?

Answer: 0.1 mol

2. How many moles of Ammonium chloride is needed to make a 0.45 L of a 1.8 M solution?

Answer: 0.81 mol.

3. Determine the volume of a 3M solution made from 0.6 mole ammonium chloride.

Answer: 0.2L

4. Determine the volume of a 10M solution made from 0.25 mol potassium nitrate.

Answer: 0.025 L

5. How many grams of NaOH (Sodium hydroxide) is required to make a 500 mL of 5 M solution?

Answer: 99.99 g NaOH

6. How many grams of KOH (Potassium hydroxide) is required to make 180 ml of a 0.9 M solution?

Answer: 9.09 g KOH

7. How many grams of NaOH (Sodium hydroxide) is required to make 300 ml of a 2 M solution?

Answer: 23.99 g NaOH

8. How many grams of KOH (Potassium hydroxide) is required to make 800 ml of a 0.4 M solution?

Answer: 17.96 g KOH.

9. Determine the volume of 0.55M solution made from 35 grams of Copper (II) sulfate ($CuSO_4$). a) answer in liters, b) answer in milliliters.

Answer: a) 0.399 L, b) 399 ml

10. Determine the volume of 0.38M solution made from 79 grams of potassium nitrate (KNO_3). a) answer in liters, b) answer in milliliters.

Answer: a) 2.05 L, b) 2050 ml.