

## Solutions, Molarity, and Stoichiometry

### CHM 1311.003 - Practice Questions

1. What is the molarity of a solution made by dissolving 16.0 g of calcium chloride to make 250.0 mL of aqueous solution?

2. How many grams of glucose ( $C_6H_{12}O_6$ ) are needed to make 250 mL of an 0.360M solution?

3. To what volume must 25.0 mL of 18.0M  $H_2SO_4$  be diluted to produce a 1.50M solution?

4. What is the molarity of an aqueous solution of sulfuric acid if 12.88 mL is neutralized by 26.04 mL of 0.1024M NaOH?

5. If 3.50 g of solid  $\text{Mg}(\text{OH})_2$  is added to 30.0 mL of 0.500M  $\text{H}_2\text{SO}_4$ , what molarity of  $\text{Mg}^{2+}$  will result? How much  $\text{Mg}(\text{OH})_2$  will remain unreacted?

6. A 12.5 mL sample of vinegar (containing acetic acid,  $\text{HC}_2\text{H}_3\text{O}_2$ ) was titrated using 0.504 M NaOH. If the titration required 20.65 mL of the NaOH solution, what was the molar concentration of acetic acid in the vinegar?