

Student Worksheet 6.5C

Extra Practice Questions: Dilution

In the following questions, “concentrated” refers to the concentration of the most common commercial reagent as listed in the table of Concentrated Reagents inside the back cover of the textbook.

1. An ammonia solution is made by diluting 150 mL of the concentrated commercial reagent until the final volume reaches 1000 mL. What is the final molar concentration?
2. What volume of a 500 ppm reagent solution is required to prepare a 2.5 L solution with a 100 ppm concentration?
3. A 500 mL bottle of concentrated acetic acid is diluted to make a 5.0% solution. Find the volume of diluted solution that is prepared.
4. In a chemical analysis, a 25.0 mL sample was diluted to 500.0 mL and analyzed. If the diluted solution had a molar concentration of 0.108 mol/L, what was the molar concentration of the original sample?
5. If a 355 mL can of soda pop is diluted to a final volume of 1.00 L, what can be said quantitatively about the concentration of the diluted solution as compared with the original solution?