Chemistry 11
Dilution Worksheet

Directions: Answer in the space provided and please show all your work. Watch your sig figs!

\[
[\text{dil}] = [\text{int}] \times \frac{\text{Initial Volume}}{\text{Final/Total Volume}} \quad \text{OR} \quad [\text{dil}] \times \text{final volume} = [\text{int}] \times \text{initial volume}
\]

1. If 45.0 ml of 1.25 M NaCl is added to 155 ml of water, what is the resulting \([\text{NaCl}]\)?

2. 350.0 ml of a 2.25 M CsOH solution is diluted to a total volume of 600.0 ml, what is the molar concentration of the resulting solution?

3. What is the resulting \([\text{KBr}]\) when 125.0 ml of 0.450 M KBr is mixed with 250.0 ml of 0.550 M KBr?

4. What volume of 7.00 M \(\text{H}_2\text{SO}_4\) is used in making up 3.25 L of a 2.15 M \(\text{H}_2\text{SO}_4\) solution?
5. How would you prepare 2.50 L of 0.650 M HCl(aq), starting with 10.55 M HCl (find the volume)?

6. What volume of 11.75 M NaOH is required to prepare 750.0 ml of 0.975 M NaOH?

7. What is the actual experimental procedure you would use to prepare 1.25 L of a 0.750 M NaOH solution, starting with solid NaOH?