Chemistry 11
Dilution Worksheet

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

$[\ ]_{dil} = [\ ]_{int} \times \dfrac{Initial\ Volume}{Final/Total\ Volume}$ **OR** $[\ ]_{dil} \times final\ volume = [\ ]_{int} \times initial\ volume$

1. If 45.0 ml of 1.25 M NaCl is added to 155 ml of water, what is the resulting [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 [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 H_2SO_4 is used in making up 3.25 L of a 2.15 M H_2SO_4 solution?

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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?