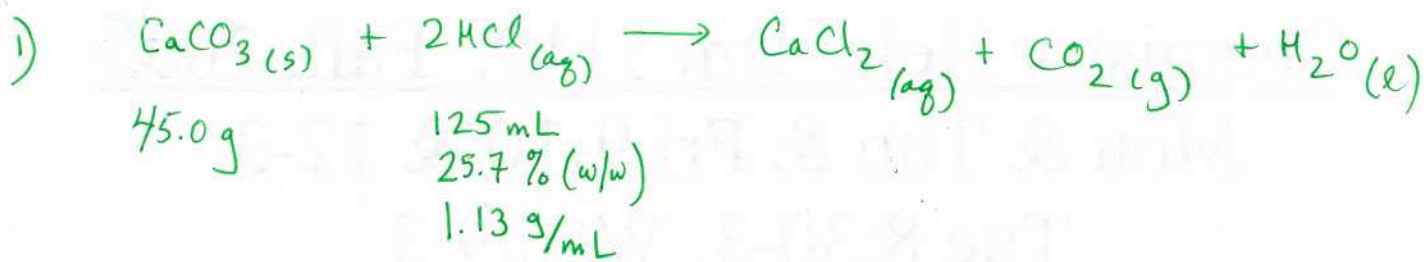


Review Problems KEY



$$\frac{45.0 \text{ g CaCO}_3}{100.09 \text{ g}} \times \frac{1 \text{ mol CaCO}_3}{1 \text{ mol CaCO}_3} \times \frac{2 \text{ mol HCl}}{1 \text{ mol CaCO}_3} = 0.899_{19} \text{ moles HCl which reacts}$$

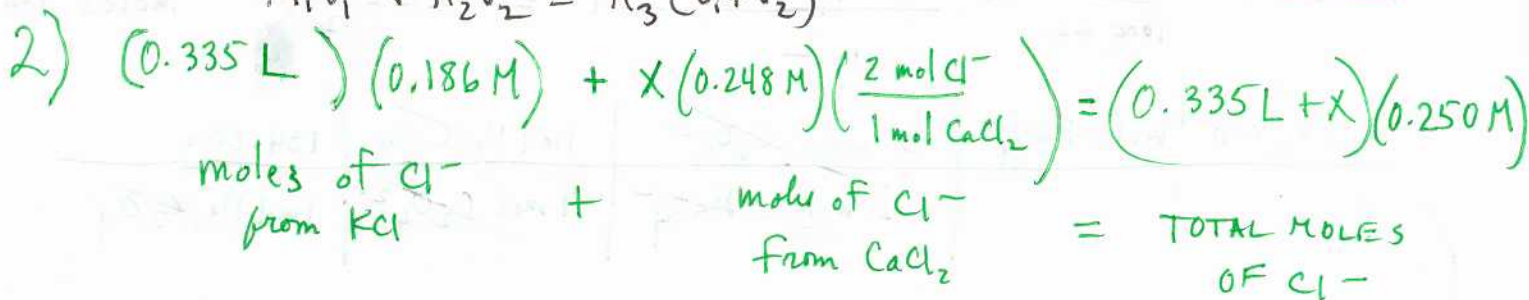
$$\frac{25.7 \text{ g solute}}{100 \text{ g solution}} \times \frac{1.13 \text{ g solution}}{1 \text{ mL solution}} \times \frac{1 \text{ mol HCl}}{36.45 \text{ g solute}} \times \frac{1000 \text{ mL}}{1 \text{ L}} \times 1.25 \text{ L} = 9.95_7 \text{ moles HCl total}$$

TOTAL - REACTS = REMAINING

$$(9.95_7 - 0.899_{19}) \text{ moles} = 9.05_{78} \text{ moles remaining}$$

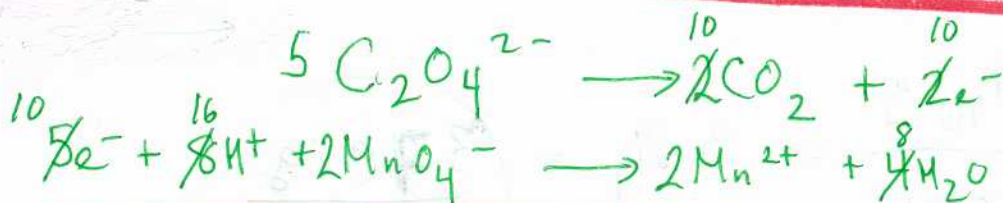
$$\frac{9.05_{78}}{1.25 \text{ L}} = \boxed{7.25 \text{ M}}$$

$$M_1V_1 + M_2V_2 = M_3(V_1 + V_2)$$

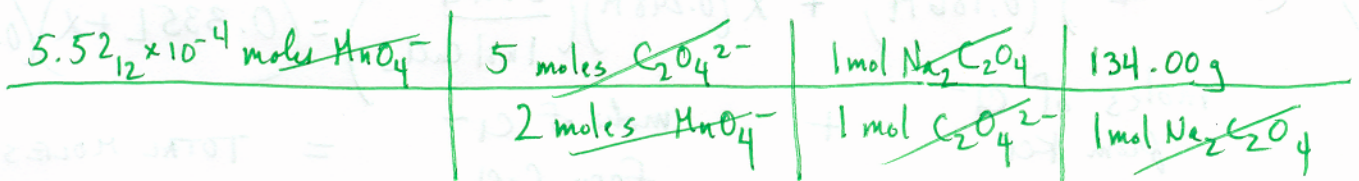


$$X = 0.0872 \text{ L} \text{ or } \boxed{87.2 \text{ mL}}$$

3)



$$25.8 \text{ mL} \times \frac{1 \text{ L}}{1000 \text{ mL}} \times \frac{0.02140 \text{ moles MnO}_4^-}{1 \text{ L}} = 5.52_{12} \times 10^{-4} \text{ moles MnO}_4^-$$



$$\rightarrow = 0.184_{96} \text{ g Na}_2\text{C}_2\text{O}_4$$

$$\frac{0.184_{96} \text{ g}}{0.0500 \text{ L}} = 3.69_{9} = \frac{3.70 \text{ g}}{1 \text{ L}}$$