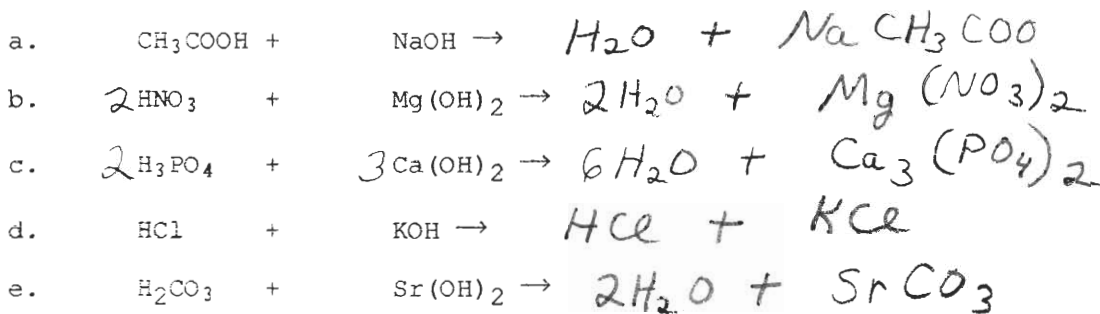


SHOW ALL WORK TO RECEIVE CREDIT. Molar masses: H = 1.01, Na = 23.0, C = 12.01, O = 16.00, Ca = 40.08

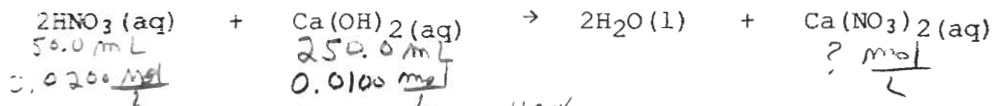
1. (5 Pts) Complete and balance the following complete neutralization reactions.



2. (5 Pts) How many grams of $\text{Ca}(\text{OH})_2$ are contained in 1500 mL of 0.0250 M $\text{Ca}(\text{OH})_2$ solution?

$$\frac{1500 \text{ mL}}{1000 \text{ mL}} \times \frac{0.0250 \text{ mol Ca}(\text{OH})_2}{\text{L}} \times \frac{74.1 \text{ g}}{\text{mol}} = 2.78 \text{ g Ca}(\text{OH})_2$$

3. (5 Pts) What is the molarity of $\text{Ca}(\text{NO}_3)_2$ in a solution resulting from mixing 150.0 mL of 0.0200 M HNO_3 with 250.0 mL of 0.0100 M $\text{Ca}(\text{OH})_2$?



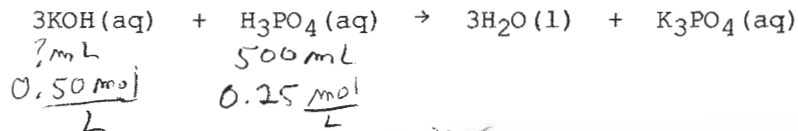
Based on HNO_3 :

150.0 mL HNO_3	0.0200 mol	1 mol $\text{Ca}(\text{NO}_3)_2$	= 0.00375 mol $\text{Ca}(\text{NO}_3)_2$
1000 mL HNO_3	2 mol HNO_3	0.4000 L	

Based on $\text{Ca}(\text{OH})_2$:

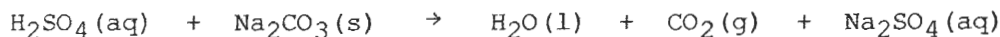
250.0 mL $\text{Ca}(\text{OH})_2$	0.0100 mol	1 mol $\text{Ca}(\text{NO}_3)_2$	= 0.00625 mol $\text{Ca}(\text{NO}_3)_2$
1000 mL $\text{Ca}(\text{OH})_2$	1 mol $\text{Ca}(\text{OH})_2$	0.4000 L	

4. (5 Pts) What volume of 0.50 M KOH would be required to neutralize completely 500 mL of 0.25 M H_3PO_4 solution?



500 mL H_3PO_4	0.25 mol	3 mol KOH	1000 mL KOH	= 750 mL KOH
1000 mL H_3PO_4	1 mol H_3PO_4	0.50 mol KOH		

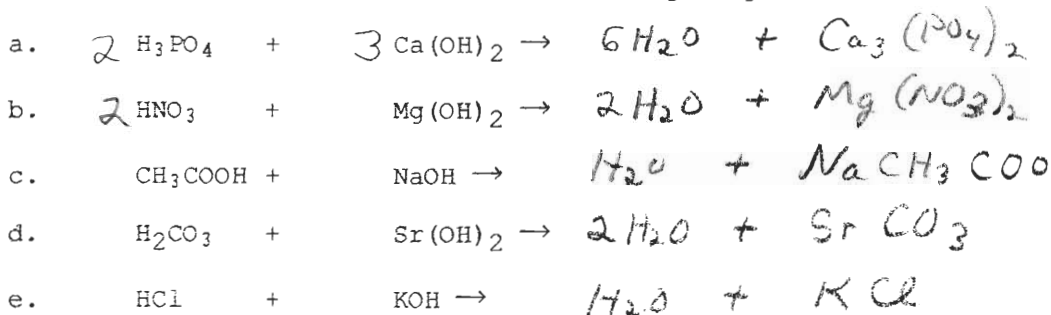
5. (5 Pts) Calculate the molarity of an H_2SO_4 solution if 40.0 mL of the H_2SO_4 solution reacts with 0.212 g of Na_2CO_3 .



40.0 x 10 ⁻³ L H_2SO_4	0.212 g Na_2CO_3	1 mol H_2SO_4	= 0.0500 mol H_2SO_4
	106.01 g Na_2CO_3	1 mol Na_2CO_3	

SHOW ALL WORK TO RECEIVE CREDIT. Molar masses: H = 1.01, Na = 23.0, C = 12.01, O = 16.00, Ca = 40.08

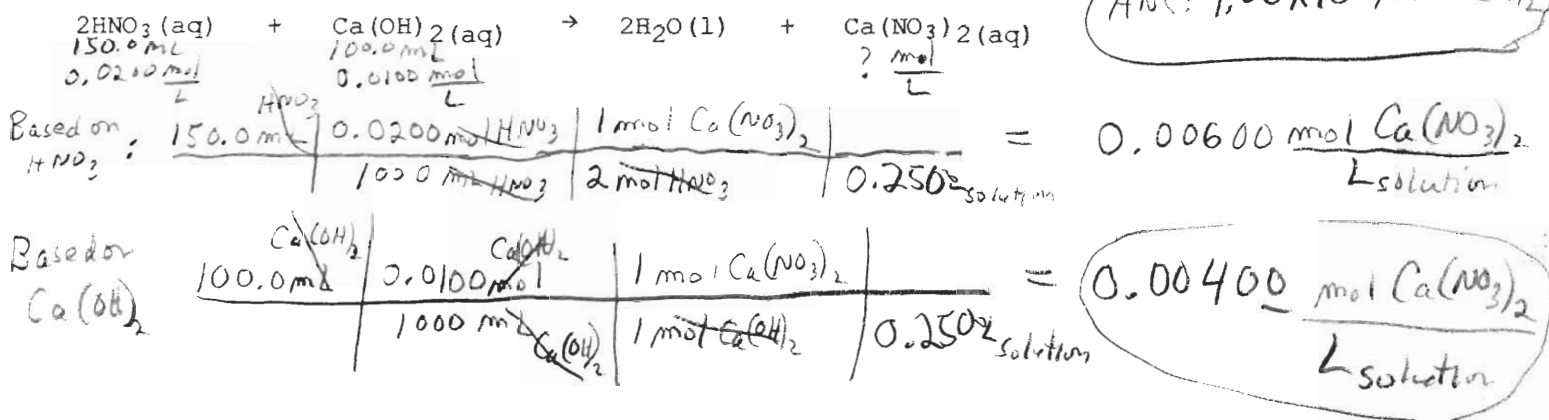
1. (5 Pts) Complete and balance the following complete neutralization reactions.



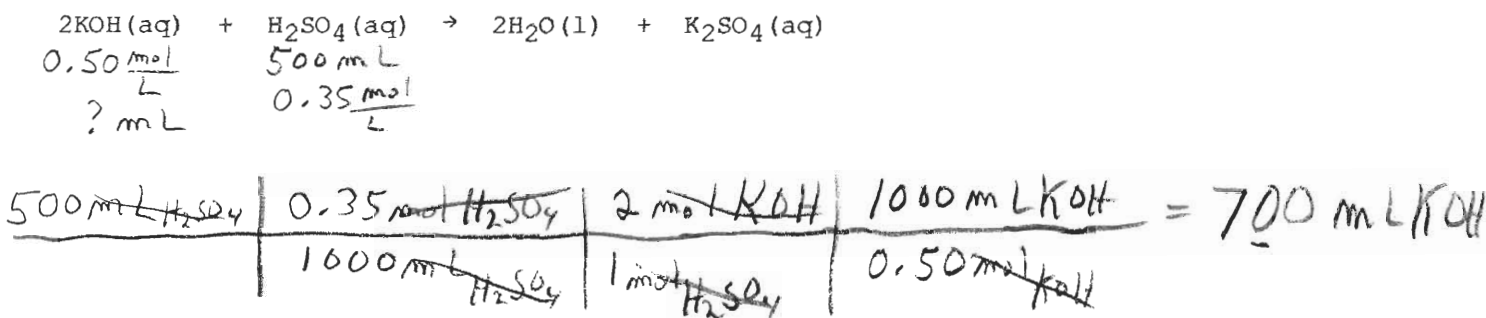
2. (5 Pts) How many grams of $\text{Ca}(\text{OH})_2$ are contained in 500 mL of 0.0350 M $\text{Ca}(\text{OH})_2$ solution?

$$\frac{500 \text{ mL}}{1000 \text{ mL}} \times \frac{0.0350 \text{ mol Ca(OH)}_2}{\text{L}} \times 74.1 \text{ g Ca(OH)}_2 = 1.297 \text{ g Ca(OH)}_2$$

3. (5 Pts) What is the molarity of $\text{Ca}(\text{NO}_3)_2$ in a solution resulting from mixing 150.0 mL of 0.0200 M HNO_3 with 100.0 mL of 0.0100 M $\text{Ca}(\text{OH})_2$?



4. (5 Pts) What volume of 0.50 M KOH would be required to neutralize completely 500 mL of 0.35 M H_2SO_4 solution?



5. (5 Pts) Calculate the molarity of an H_2SO_4 solution if 40.0 mL of the H_2SO_4 solution reacts with 0.312 g of Na_2CO_3 .

