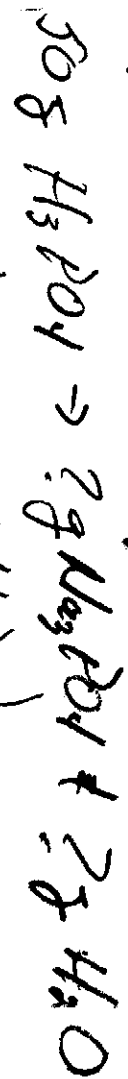


Q.4 How much #3 - How? Stoichiometry



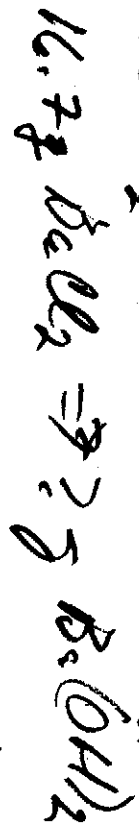
$$(50 \text{ g H}_3\text{PO}_4) \times \frac{(1 \text{ mol H}_3\text{PO}_4)}{(98 \text{ g})} = .51 \text{ mol H}_3\text{PO}_4$$

$$(1 \text{ mol H}_3\text{PO}_4) \times \frac{(1 \text{ mol Na}_3\text{PO}_4)}{(1 \text{ mol H}_3\text{PO}_4)} = .51 \text{ mol Na}_3\text{PO}_4$$

$$(1.51 \text{ mol Na}_3\text{PO}_4) \times \frac{(163.94 \text{ g})}{(\text{mol})} = \underline{\underline{83.61 \text{ g Na}_3\text{PO}_4}}$$

$$(1.51 \text{ mol H}_3\text{PO}_4) \times \frac{(3 \text{ mol H}_2\text{O})}{(1 \text{ mol H}_3\text{PO}_4)} = 1.53 \text{ mol H}_2\text{O}$$

$$(1.53 \text{ mol H}_2\text{O}) \times \frac{(18.02 \text{ g})}{(\text{mol H}_2\text{O})} = \underline{\underline{27.57 \text{ g H}_2\text{O}}}$$



$$(16.7 \text{ g BeCl}_2) \times \frac{(1 \text{ mol BeCl}_2)}{(108.23 \text{ g})} = .08 \text{ mol BeCl}_2$$

$$(16.7 \text{ g BeCl}_2) \times \frac{(1 \text{ mol Be(OH)}_2)}{(1 \text{ mol BeCl}_2)} = .08 \text{ mol Be(OH)}_2$$

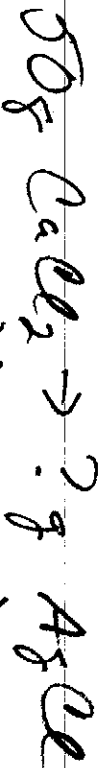
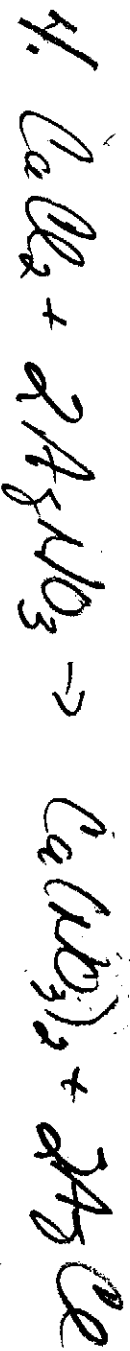
$$2. \text{CO}_2 \uparrow \left(.05 \text{ mol Ba(OH)}_2 \times \frac{171.3 \text{ g}}{\text{mol Ba(OH)}_2} = 13.74 \text{ g BaCO}_3 \right)$$



$$\left(20 \text{ g CaCO}_3 \right) \left(\frac{1 \text{ mol CaCO}_3}{100.09 \text{ g}} \right) = .2 \text{ mol CaCO}_3$$

$$\left(.2 \text{ mol CaCO}_3 \right) \left(\frac{2 \text{ mol HCl}}{1 \text{ mol CaCO}_3} \right) = .4 \text{ mol HCl}$$

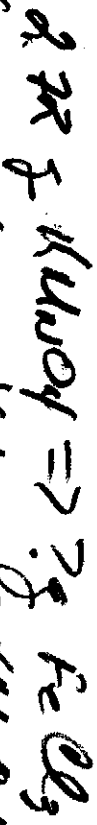
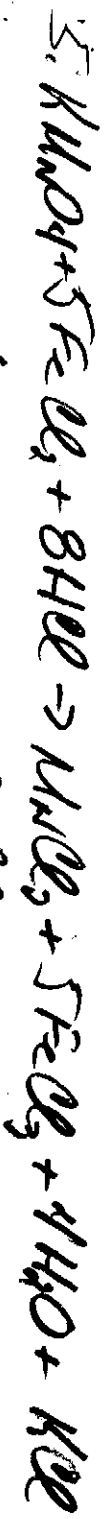
$$\left(.4 \text{ mol HCl} \right) \left(\frac{36.46 \text{ g}}{\text{mol HCl}} \right) = 14.58 \text{ g HCl}$$



$$\left(50 \text{ g CaO} \right) \left(\frac{1 \text{ mol}}{110.18 \text{ g}} \right) = .45 \text{ mol CaO}$$

$$\left(.45 \text{ mol CaO} \right) \left(\frac{2 \text{ mol AgCl}}{1 \text{ mol CaO}} \right) = .9 \text{ mol AgCl}$$

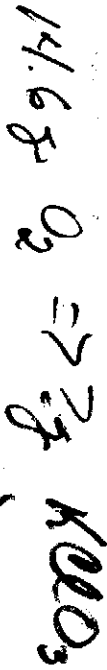
$$\left(.9 \text{ mol AgCl} \right) \left(\frac{143.5 \text{ g}}{\text{mol AgCl}} \right) = 128.8 \text{ g AgCl}$$



$$\left(2.72 \text{ g KMnO}_4 \right) \left(\frac{1 \text{ mol KMnO}_4}{158.04 \text{ g}} \right) = .017 \text{ mol KMnO}_4$$

$$\left(.017 \text{ mol KMnO}_4 \right) \left(\frac{5 \text{ mol FeCl}_3}{1 \text{ mol KMnO}_4} \right) = .086 \text{ mol FeCl}_3$$

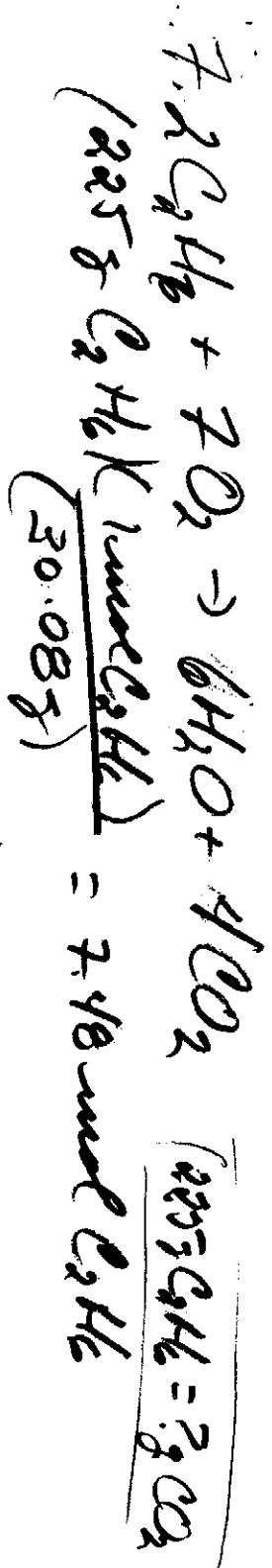
$$\left(.086 \text{ mol FeCl}_3 \right) \left(\frac{162.2 \text{ g}}{1 \text{ mol FeCl}_3} \right) = 13.95 \text{ g FeCl}_3$$



$$\left(14.6 \text{ g O}_2 \right) \left(\frac{1 \text{ mol O}_2}{32 \text{ g}} \right) = .46 \text{ mol O}_2$$

$$\left(.46 \text{ mol O}_2 \right) \left(\frac{2 \text{ mol KClO}_3}{3 \text{ mol O}_2} \right) = .31 \text{ mol KClO}_3$$

$$\left(.31 \text{ mol KClO}_3 \right) \left(\frac{122.55 \text{ g}}{1 \text{ mol KClO}_3} \right) = 37.99 \text{ g KClO}_3$$



$(7.48 \text{ mol } C_2H_6) \left(\frac{4 \text{ mol } CO_2}{2 \text{ mol } C_2H_6} \right) = 14.96 \text{ mol } CO_2$

$(14.96 \text{ mol } CO_2) \left(\frac{44.01g}{1 \text{ mol } CO_2} \right) = \underline{\underline{658.39g CO_2}}$

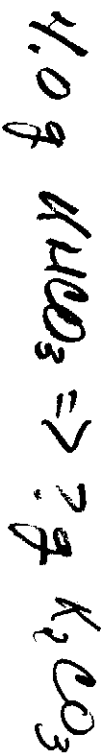
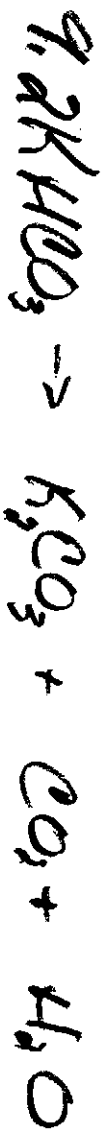


$50g O_2 \Rightarrow ?g SO_3$

$(50g O_2) \left(\frac{1 \text{ mol}}{32g} \right) = 1.56 \text{ mol } O_2$

$(1.56 \text{ mol } O_2) \left(\frac{2 \text{ mol } SO_3}{1 \text{ mol } O_2} \right) = 3.12 \text{ mol } SO_3$

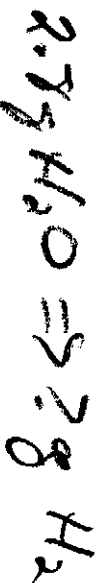
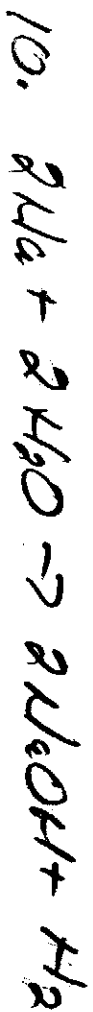
$(3.12 \text{ mol } SO_3) \left(\frac{80.06g}{1 \text{ mol } SO_3} \right) = \underline{\underline{249.78g SO_3}}$



$$(4.0 \text{ g } KAlO_3) \times \frac{(1 \text{ mol})}{(100.12 \text{ g})} = .04 \text{ mol } KAlO_3$$

$$(1.04 \text{ mol } KAlO_3) \times \frac{(1 \text{ mol } K_2CO_3)}{(2 \text{ mol } KAlO_3)} = .02 \text{ mol } K_2CO_3$$

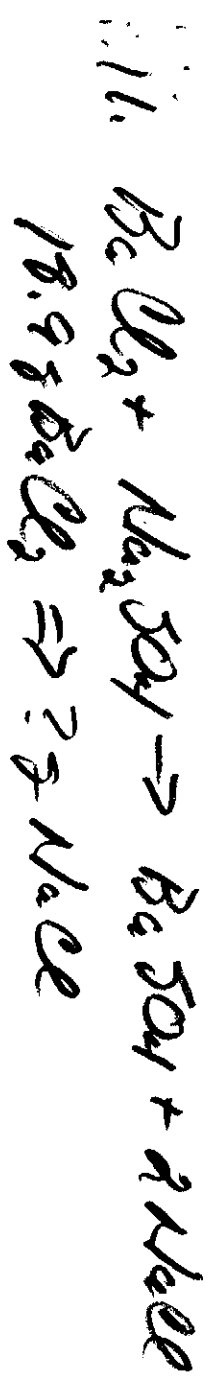
$$(1.02 \text{ mol } K_2CO_3) \times \frac{(138.21 \text{ g})}{(1 \text{ mol } K_2CO_3)} = 2.36 \text{ g } K_2CO_3$$



$$(2.7 \text{ g } H_2O) \times \frac{(1 \text{ mol})}{(18.02 \text{ g})} = .16 \text{ mol } H_2O$$

$$(16 \text{ mol } H_2O) \times \frac{(1 \text{ mol } H_2)}{(2 \text{ mol } H_2O)} = .08 \text{ mol } H_2$$

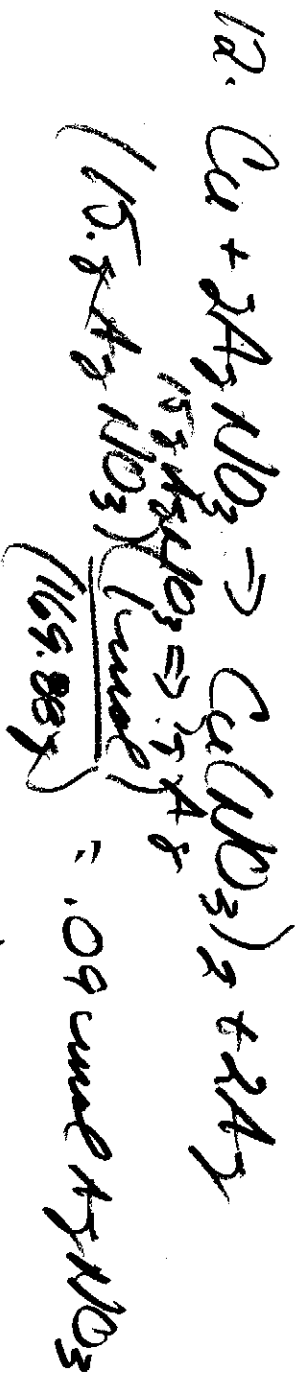
$$(0.08 \text{ mol } H_2) \times \frac{(2.02 \text{ g})}{(1 \text{ mol } H_2)} = .16 \text{ g } H_2 \text{ (if you would enter about 1.65)}$$



$$(18.9 \text{ g BaO}_2) \left(\frac{1 \text{ mol}}{208.23 \text{ g}} \right) = .09 \text{ mol BaO}_2$$

$$(.09 \text{ mol BaO}_2) \left(\frac{2 \text{ mol NaO}}{1 \text{ mol BaO}_2} \right) = .18 \text{ mol NaO}$$

$$(.18 \text{ mol NaO}) \left(\frac{58.44 \text{ g}}{1 \text{ mol NaO}} \right) = 10.5 \text{ g NaO}$$



$$(.09 \text{ mol AgNO}_3) \left(\frac{2 \text{ mol Ag}}{2 \text{ mol AgNO}_3} \right) = .09 \text{ mol Ag}$$

$$(.09 \text{ mol Ag}) \left(\frac{107.87 \text{ g}}{1 \text{ mol Ag}} \right) = 9.7 \text{ g Ag}$$