KEY

Solutions	Quick Answer	QR Code on Card #
1.) $\frac{0.83\text{ g } Li_3N}{1} x \frac{1\text{ mol}}{34.83\text{ g } Li_3N} x \frac{3\text{ mol LiOH}}{1\text{ mol } Li_3N} x \frac{23.95\text{ g LiOH}}{1\text{ mol LiOH}} = 1.7\text{ g LiOH}$	1.7 g LiOH	9
2.) $\frac{1150\text{ g } O_2}{1} x \frac{1\text{ mol}}{32.00\text{ g } O_2} x \frac{2\text{ mol } C_2H_6}{7\text{ mol } O_2} = 10.3\text{ mol } C_2H_6$	10.3 mol C_2H_6	15
3.) $\frac{386.70\text{ g } O_2}{1} x \frac{1\text{ mol } O_2}{32.00\text{ g } O_2} x \frac{5\text{ mol } N_2H_4}{2\text{ mol } O_2} x \frac{22.4\text{ L } N_2H_4}{1\text{ mol } N_2H_4} = 676.73\text{ L } N_2H_4 \text{ @ STP}$	676.73 L N_2H_4 @ STP	5
4.) $\frac{26.5\text{ g } ZnCl_2}{1} x \frac{1\text{ mol } ZnCl_2}{136.29\text{ g } ZnCl_2} x \frac{1\text{ mol Zn}}{1\text{ mol } ZnCl_2} x \frac{65.39\text{ g Zn}}{1\text{ mol Zn}} = 12.7\text{ g Zn}$	12.7 g Zn	14
5.) $\frac{12.3\text{ L } AsH_3}{1} x \frac{1\text{ mol } AsH_3}{22.4\text{ L } AsH_3} x \frac{6\text{ mol HCl}}{2\text{ mol } AsH_3} x \frac{36.46\text{ g HCl}}{1\text{ mol HCl}} = 60.1\text{ g HCl at STP}$	60.1 g HCl @ STP	1
6.) $\frac{18.7\text{ mol HF}}{1} x \frac{1\text{ mol } Ca(OH)_2}{2\text{ mol HF}} x \frac{74.10\text{ g } Ca(OH)_2}{1\text{ mol } Ca(OH)_2} = 693\text{ g } Ca(OH)_2$	693 g $Ca(OH)_2$	16
7.) $\frac{35\text{ g NaCl}}{1} x \frac{1\text{ mol NaCl}}{58.44\text{ g NaCl}} x \frac{2\text{ mol HCl}}{2\text{ mol NaCl}} x \frac{22.4\text{ L}}{1\text{ mol HCl}} = 13\text{ L HCl at STP}$	13 L HCl @ STP	11
8.) $\frac{25.75\text{ g } Ca(OH)_2}{1} x \frac{1\text{ mol } Ca(OH)_2}{74.10\text{ g } Ca(OH)_2} x \frac{1\text{ mol CaO}}{1\text{ mol } Ca(OH)_2} x \frac{56.08\text{ g CaO}}{1\text{ mol CaO}} = 19.49\text{ g CaO}$	19.49 g CaO	7

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9.) $Zn + H_2SO_4 \rightarrow ZnSO_4 + H_2$ $\frac{95.0\text{ g Zn}}{1} x \frac{1\text{ mol Zn}}{65.39\text{ g Zn}} x \frac{1\text{ mol H}_2}{1\text{ mol Zn}} x \frac{22.4\text{ L H}_2}{1\text{ mol H}_2} = 32.5\text{ L H}_2\text{ at STP}$	32.5 L H_2 @ STP	10
10.) $\frac{13.6\text{ mol CaO}}{1} x \frac{2\text{ mol Ca}}{2\text{ mol CaO}} x \frac{40.08\text{ g Ca}}{1\text{ mol Ca}} = 545\text{ g Ca}$	545 g Ca	2
11.) $P_4 + 5\ O_2 \rightarrow P_4O_{10}$ $\frac{74.3\text{ g P}_4}{1} x \frac{1\text{ mol P}_4}{123.88\text{ g P}_4} x \frac{1\text{ mol P}_4\text{O}_{10}}{1\text{ mol P}_4} x \frac{141.94\text{ g P}_4\text{O}_{10}}{1\text{ mol P}_4\text{O}_{10}} = 85.1\text{ g P}_4\text{O}_{10}$	85.1 g P_4O_{10}	13
12.) $\frac{200.\text{ mol H}_2}{1} x \frac{2\text{ mol H}_2\text{O}}{2\text{ mol H}_2} = 200.\text{ mol H}_2\text{O}$	200. mol H_2O	3
13.) $S + O_2 \rightarrow SO_2$ $\frac{40.0\text{ g SO}_2}{1} x \frac{1\text{ mol SO}_2}{64.07\text{ g SO}_2} x \frac{1\text{ mol O}_2}{1\text{ mol SO}_2} x \frac{32.00\text{ g O}_2}{1\text{ mol O}_2} = 20.0\text{ g O}_2$	20.0 g O_2	12
14.) $\frac{7.00\text{ mol AgNO}_3}{1} x \frac{1\text{ mol Cu(NO}_3)_2}{2\text{ mol AgNO}_3} x \frac{187.57\text{ g Cu(NO}_3)_2}{1\text{ mol Cu(NO}_3)_2} = 656\text{ g Cu(NO}_3)_2$	656 g $Cu(NO_3)_2$	6
15.) $C_3H_8 + 5\ O_2 \rightarrow 3\ CO_2 + 4\ H_2O$ $\frac{17.6\text{ L C}_3\text{H}_8}{1} x \frac{1\text{ mol C}_3\text{H}_8}{22.4\text{ L C}_3\text{H}_8} x \frac{5\text{ mol O}_2}{1\text{ mol C}_3\text{H}_8} = 3.93\text{ mol O}_2\text{ at STP}$	3.93 mol O_2 @ STP	4
16.) $CO_2 + NH_3 + H_2O \rightarrow NH_4HCO_3$ $\frac{4575\text{ L NH}_3}{1} x \frac{1\text{ mol NH}_3}{22.4\text{ L NH}_3} x \frac{1\text{ mol NH}_4\text{HCO}_3}{1\text{ mol NH}_3} x \frac{79.07\text{ g NH}_4\text{HCO}_3}{1\text{ mol NH}_4\text{HCO}_3} x \frac{1\text{ kg NH}_4\text{HCO}_3}{1000\text{ g NH}_4\text{HCO}_3} = 16.15\text{ kg NH}_4\text{HCO}_3\text{ @ STP}$	16.15 kg NH_4HCO_3 @ STP	8