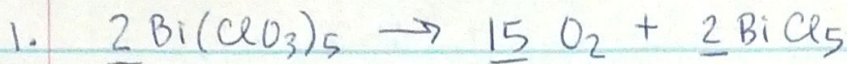


Stoichiometry Wkst #3



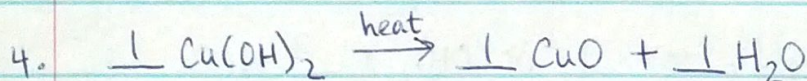
$$\frac{42 \text{ g Bi}(\text{ClO}_3)_5}{626.23 \text{ g}} \left| \frac{1 \text{ mol Bi}(\text{ClO}_3)_5}{2 \text{ mol Bi}(\text{ClO}_3)_5} \right| \frac{15 \text{ mol O}_2}{1 \text{ mol O}_2} \left| \frac{32.00 \text{ g O}_2}{1 \text{ mol O}_2} \right| = \underline{16 \text{ g O}_2}$$



$$\frac{16 \text{ g Mg}}{24.31 \text{ g Mg}} \left| \frac{1 \text{ mol Mg}}{3 \text{ mol Mg}} \right| \frac{2 \text{ mol H}_3\text{PO}_4}{1 \text{ mol H}_3\text{PO}_4} \left| \frac{98 \text{ g H}_3\text{PO}_4}{1 \text{ mol H}_3\text{PO}_4} \right| = \underline{43 \text{ g H}_3\text{PO}_4}$$

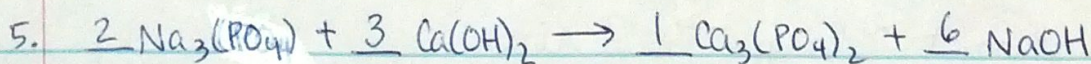


$$\frac{45 \text{ g Na}_2\text{CO}_3}{105.99 \text{ g}} \left| \frac{1 \text{ mol Na}_2\text{CO}_3}{1 \text{ mol Na}_2\text{CO}_3} \right| \frac{1 \text{ mol CO}_2}{1 \text{ mol CO}_2} \left| \frac{22.4 \text{ L CO}_2}{1 \text{ mol CO}_2} \right| = \underline{9.5 \text{ L CO}_2}$$



(48.9g)

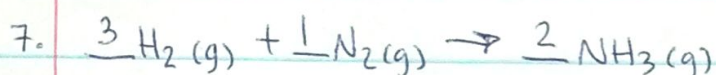
$$\frac{60 \text{ g Cu}(\text{OH})_2}{97.57 \text{ g Cu}(\text{OH})_2} \left| \frac{1 \text{ mol Cu}(\text{OH})_2}{1 \text{ mol Cu}(\text{OH})_2} \right| \frac{1 \text{ mol CuO}}{1 \text{ mol CuO}} \left| \frac{79.55 \text{ g CuO}}{1 \text{ mol CuO}} \right| = \underline{50 \text{ g CuO}}$$



$$\frac{25 \text{ g Na}_3\text{PO}_4}{163.94 \text{ g}} \left| \frac{1 \text{ mol Na}_3\text{PO}_4}{2 \text{ mol Na}_3\text{PO}_4} \right| \frac{1 \text{ mol Ca}_3(\text{PO}_4)_2}{1 \text{ mol Ca}_3(\text{PO}_4)_2} \left| \frac{310.18 \text{ g Ca}_3(\text{PO}_4)_2}{1 \text{ mol Ca}_3(\text{PO}_4)_2} \right| = \underline{24 \text{ g Ca}_3(\text{PO}_4)_2}$$



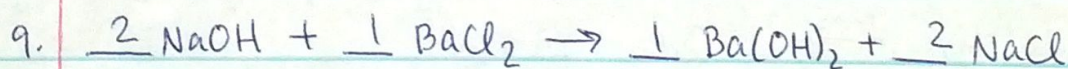
$\frac{140 \text{ g Pb}}{207.2 \text{ g Pb}}$	$\frac{1 \text{ mol Pb}}{1 \text{ mol Pb}}$	$\frac{2 \text{ mol H}_2}{1 \text{ mol Pb}}$	$\frac{6.02 \times 10^{23} \text{ molec H}_2}{1 \text{ mol H}_2} = \underline{8.1 \times 10^{23} \text{ molecules H}_2}$
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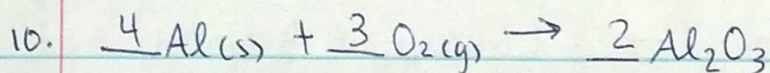
$\frac{42 \text{ L N}_2}{22.4 \text{ L N}_2}$	$\frac{1 \text{ mol N}_2}{1 \text{ mol N}_2}$	$\frac{3 \text{ mol H}_2}{1 \text{ mol N}_2}$	$\frac{22.4 \text{ L H}_2}{1 \text{ mol H}_2} = 126 \text{ L} = \underline{130 \text{ L H}_2}$
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$\frac{15 \text{ g H}_2\text{O}}{18.02 \text{ g H}_2\text{O}}$	$\frac{1 \text{ mol H}_2\text{O}}{1 \text{ mol H}_2\text{O}}$	$\frac{2 \text{ mol Na}}{2 \text{ mol H}_2\text{O}}$	$\frac{22.99 \text{ g Na}}{1 \text{ mol Na}} = \underline{19 \text{ g Na}}$
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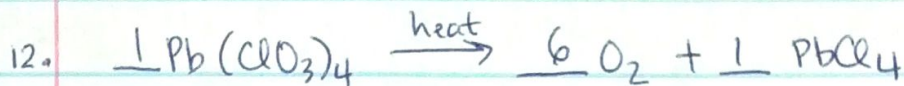
$\frac{50 \text{ g NaOH}}{40.00 \text{ g NaOH}}$	$\frac{1 \text{ mol NaOH}}{1 \text{ mol NaOH}}$	$\frac{1 \text{ mol Ba(OH)}_2}{2 \text{ mol NaOH}}$	$\frac{171.35 \text{ g Ba(OH)}_2}{1 \text{ mol Ba(OH)}_2} = 107 \text{ g} = \underline{100 \text{ g Ba(OH)}_2}$
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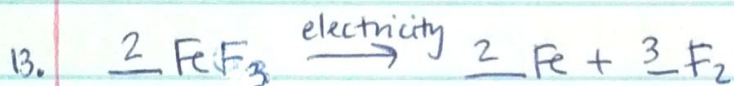
$\frac{15 \text{ L O}_2}{22.4 \text{ L O}_2}$	$\frac{1 \text{ mol O}_2}{1 \text{ mol O}_2}$	$\frac{4 \text{ mol Al}}{3 \text{ mol O}_2}$	$\frac{26.98 \text{ g Al}}{1 \text{ mol Al}} = \underline{24 \text{ g Al}}$
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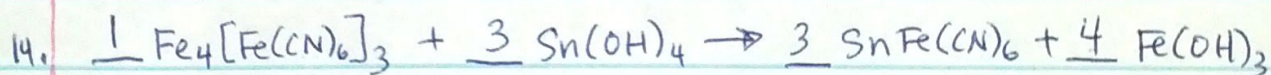
$$\frac{5.1 \times 10^{24} \text{ molec. H}_2}{6.02 \times 10^{23} \text{ molec.}} \left| \frac{1 \text{ mol H}_2}{1 \text{ mol H}_2} \right| \left| \frac{1 \text{ mol Zn}}{1 \text{ mol H}_2} \right| \left| \frac{65.39 \text{ g Zn}}{1 \text{ mol Zn}} \right| = 550 \text{ g Zn}$$



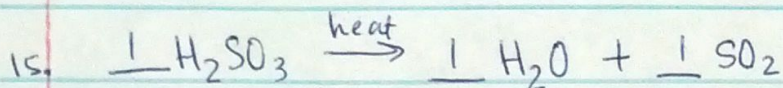
$$\frac{75 \text{ g Pb(ClO}_3)_4}{541 \text{ g Pb(ClO}_3)_4} \left| \frac{1 \text{ mol Pb(ClO}_3)_4}{1 \text{ mol Pb(ClO}_3)_4} \right| \left| \frac{6 \text{ mol O}_2}{1 \text{ mol Pb(ClO}_3)_4} \right| \left| \frac{22.4 \text{ l O}_2}{1 \text{ mol O}_2} \right| = \frac{18.63 \text{ l O}_2}{1 \text{ l O}_2} = \underline{19 \text{ l O}_2}$$



$$\frac{35 \text{ g FeF}_3}{112.85 \text{ g FeF}_3} \left| \frac{1 \text{ mol FeF}_3}{2 \text{ mol FeF}_3} \right| \left| \frac{3 \text{ mol F}_2}{1 \text{ mol FeF}_3} \right| \left| \frac{22.4 \text{ l F}_2}{1 \text{ mol F}_2} \right| = \underline{10.4 \text{ l F}_2} = \boxed{1.0 \times 10^1 \text{ l F}_2}$$



$$\frac{125 \text{ g Fe}(\text{OH})_3}{106.88 \text{ g Fe}(\text{OH})_3} \left| \frac{1 \text{ mol Fe}(\text{OH})_3}{4 \text{ mol Fe}(\text{OH})_3} \right| \left| \frac{1 \text{ mol Fe}_4[\text{Fe}(\text{CN})_6]_3}{1 \text{ mol Fe}_4[\text{Fe}(\text{CN})_6]_3} \right| \left| \frac{859.31 \text{ g Fe}_4[\text{Fe}(\text{CN})_6]_3}{1 \text{ mol Fe}_4[\text{Fe}(\text{CN})_6]_3} \right| = \boxed{25 \text{ g}}$$



$$\frac{15 \text{ g H}_2\text{SO}_3}{82.09 \text{ g H}_2\text{SO}_3} \left| \frac{1 \text{ mol H}_2\text{SO}_3}{1 \text{ mol H}_2\text{SO}_3} \right| \left| \frac{1 \text{ mol SO}_2}{1 \text{ mol H}_2\text{SO}_3} \right| \left| \frac{22.4 \text{ l SO}_2}{1 \text{ mol SO}_2} \right| = \underline{4.1 \text{ l SO}_2}$$