

PG. 128 #28

$$280. \text{ g } N_2 \times \frac{1 \text{ mol } N_2}{28.02 \text{ g}} \times \frac{3 \text{ H}_2}{1 \text{ N}_2} \times \frac{2.02 \text{ g}}{1 \text{ mol } H_2} = 60.6 \text{ g } H_2$$

$$280. \text{ g } N_2 \times \frac{1 \text{ mol } N_2}{28.02 \text{ g}} \times \frac{2 \text{ NH}_3}{1 \text{ N}_2} \times \frac{17.04 \text{ g}}{1 \text{ mol } NH_3} = 340. \text{ g } NH_3$$



## PG. 128 #29

$$2.6 \text{ g NaBr} \times \frac{1 \text{ mol NaBr}}{102.89 \text{ g}} \times \frac{1 \text{ AgNO}_3}{1 \text{ NaBr}} \times \frac{169.88 \text{ g}}{1 \text{ mol AgNO}_3} = 4.3 \text{ g AgNO}_3$$

$$2.6 \text{ g NaBr} \times \frac{1 \text{ mol NaBr}}{102.89 \text{ g}} \times \frac{1 \text{ AgBr}}{1 \text{ NaBr}} \times \frac{187.77 \text{ g}}{1 \text{ mol AgBr}} = 4.7 \text{ g AgBr}$$

$$2.6 \text{ g NaBr} \times \frac{1 \text{ mol NaBr}}{102.89 \text{ g}} \times \frac{1 \text{ NaNO}_3}{1 \text{ NaBr}} \times \frac{85.00 \text{ g}}{1 \text{ mol NaNO}_3} = 2.1 \text{ g NaNO}_3$$



## PG. 128 #30

$$1.00 \times 10^3 \text{ g } NH_4NO_3 \times \frac{1 \text{ mol } NH_4NO_3}{80.06 \text{ g}} \times \frac{1 N_2O}{1 NH_4NO_3} \times \frac{44.02 \text{ g}}{1 \text{ mol } N_2O} = 550. \text{ g } N_2O$$

$$1.00 \times 10^3 \text{ g } NH_4NO_3 \times \frac{1 \text{ mol } NH_4NO_3}{80.06 \text{ g}} \times \frac{2 H_2O}{1 NH_4NO_3} \times \frac{18.02 \text{ g}}{1 \text{ mol } H_2O} = 450. \text{ g } H_2O$$



PG. 128 #31

$$2.56 \text{ g Al} \times \frac{1 \text{ mol Al}}{26.98 \text{ g}} \times \frac{3 \text{ Br}_2}{2 \text{ Al}} \times \frac{159.80 \text{ g}}{1 \text{ mol Br}_2} = 22.7 \text{ g Br}_2$$

$$2.56 \text{ g Al} \times \frac{1 \text{ mol Al}}{26.98 \text{ g}} \times \frac{1 \text{ Al}_2\text{Br}_6}{2 \text{ Al}} \times \frac{533.36 \text{ g}}{1 \text{ mol Al}_2\text{Br}_6} = 25.3 \text{ g Al}_2\text{Br}_6$$



PG. 128 #32

$$68.0 \text{ g } NH_3 \times \frac{1 \text{ mol } NH_3}{17.04 \text{ g}} \times \frac{3 H_2O}{2 NH_3} \times \frac{18.02 \text{ g}}{1 \text{ mol } H_2O} = 108 \text{ g } H_2O$$

$$68.0 \text{ g } NH_3 \times \frac{1 \text{ mol } NH_3}{17.04 \text{ g}} \times \frac{1 CaCN_2}{2 NH_3} \times \frac{80.11 \text{ g}}{1 \text{ mol } CaCN_2} = 160. \text{ g } CaCN_2$$



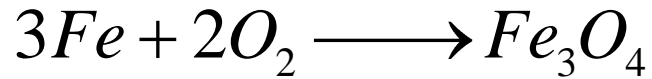
PG. 128 #33

$$365 \text{ g } SF_6 \times \frac{1 \text{ mol } SF_6}{146.07 \text{ g}} \times \frac{1 S_8}{8 SF_6} \times \frac{256.56 \text{ g}}{1 \text{ mol } S_8} = 80.1 \text{ g } S_8$$

$$365 \text{ g } SF_6 \times \frac{1 \text{ mol } SF_6}{146.07 \text{ g}} \times \frac{1 S_8}{8 SF_6} \times \frac{256.56 \text{ g}}{1 \text{ mol } S_8} = 80.1 \text{ g } S_8$$



PG. 129 #34

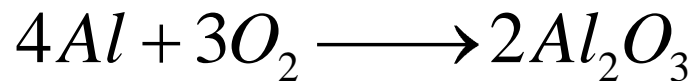


$$12.58 \text{ g } Fe \times \frac{1 \text{ mol } Fe}{55.85 \text{ g}} \times \frac{2 \text{ O}_2}{3 \text{ Fe}} \times \frac{32.00 \text{ g}}{1 \text{ mol } O_2} = 4.81 \text{ g } O_2$$

$$12.58 \text{ g } Fe \times \frac{1 \text{ mol } Fe}{55.85 \text{ g}} \times \frac{1 \text{ Fe}_3\text{O}_4}{3 \text{ Fe}} \times \frac{231.55 \text{ g}}{1 \text{ mol } Fe_3O_4} = 17.4 \text{ g } Fe_3O_4$$



PG. 129 #35



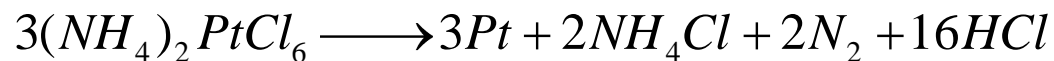
$$0.569 \text{ g Al} \times \frac{1 \text{ mol Al}}{26.98 \text{ g}} \times \frac{3 O_2}{4 Al} \times \frac{32.00 \text{ g}}{1 \text{ mol } O_2} = 0.506 \text{ g } O_2$$

$$0.569 \text{ g Al} \times \frac{1 \text{ mol Al}}{26.98 \text{ g}} \times \frac{2Al_2O_3}{4 Al} \times \frac{101.96 \text{ g}}{1 \text{ mol } Al_2O_3} = 1.08 \text{ g } Al_2O_3$$





## PG. 129 #36

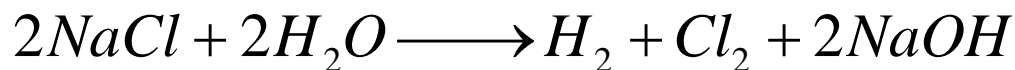


$$34.6 \text{ g } (\text{NH}_4)_2\text{PtCl}_6 \times \frac{1 \text{ mol } (\text{NH}_4)_2\text{PtCl}_6}{443.88 \text{ g}} \times \frac{3 \text{ Pt}}{3 (\text{NH}_4)_2\text{PtCl}_6} \times \frac{195.08 \text{ g}}{1 \text{ mol Pt}} = 15.2 \text{ g Pt}$$

$$34.6 \text{ g } (\text{NH}_4)_2\text{PtCl}_6 \times \frac{1 \text{ mol } (\text{NH}_4)_2\text{PtCl}_6}{443.88 \text{ g}} \times \frac{16 \text{ HCl}}{3 (\text{NH}_4)_2\text{PtCl}_6} \times \frac{36.46 \text{ g}}{1 \text{ mol HCl}} = 15.2 \text{ g HCl}$$



## PG. 129 #37



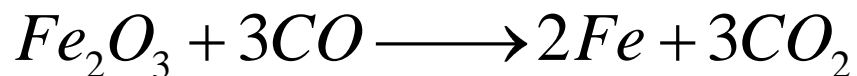
$$2550 \text{ g NaCl} \times \frac{1 \text{ mol NaCl}}{58.44 \text{ g}} \times \frac{1 \text{ H}_2}{2 \text{ NaCl}} \times \frac{2.02 \text{ g}}{1 \text{ mol H}_2} = 44.1 \text{ g H}_2$$

$$2550 \text{ g NaCl} \times \frac{1 \text{ mol NaCl}}{58.44 \text{ g}} \times \frac{1 \text{ Cl}_2}{2 \text{ NaCl}} \times \frac{70.90 \text{ g}}{1 \text{ mol Cl}_2} = 1550 \text{ g Cl}_2$$

$$2550 \text{ g NaCl} \times \frac{1 \text{ mol NaCl}}{58.44 \text{ g}} \times \frac{2 \text{ NaOH}}{2 \text{ NaCl}} \times \frac{40.00 \text{ g}}{1 \text{ mol NaOH}} = 1750 \text{ g NaOH}$$



## PG. 129 #38

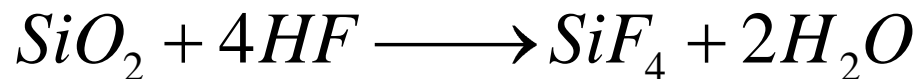


$$365 \text{ g } Fe_2O_3 \times \frac{1 \text{ mol } Fe_2O_3}{159.70 \text{ g}} \times \frac{3 \text{ CO}}{1 \text{ Fe}_2O_3} \times \frac{28.01 \text{ g}}{1 \text{ mol } CO} = 192 \text{ g } CO$$

$$27900 \text{ g } Fe \times \frac{1 \text{ mol } Fe}{55.85 \text{ g}} \times \frac{1 \text{ Fe}_2O_3}{2 \text{ Fe}} \times \frac{159.70 \text{ g}}{1 \text{ mol } Fe_2O_3} = 39900 \text{ g } Fe_2O_3$$
$$= 39.9 \text{ kg } Fe_2O_3$$



PG. 129 #39

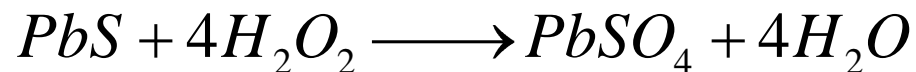


$$256 \text{ g SiO}_2 \times \frac{1 \text{ mol SiO}_2}{60.09 \text{ g}} \times \frac{4 \text{ HF}}{1 \text{ SiO}_2} \times \frac{20.01 \text{ g}}{1 \text{ mol HF}} = 341 \text{ g HF}$$

$$300. \text{ g SiO}_2 \times \frac{1 \text{ mol SiO}_2}{60.09 \text{ g}} \times \frac{1 \text{ SiF}_4}{1 \text{ SiO}_2} \times \frac{104.09 \text{ g}}{1 \text{ mol SiF}_4} = 520. \text{ g SiF}_4$$



## PG. 129 #40

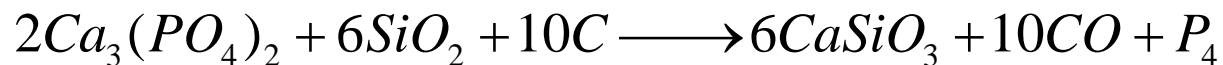


$$0.24 \text{ g PbS} \times \frac{1 \text{ mol PbS}}{239.27 \text{ g}} \times \frac{4 \text{ H}_2\text{O}_2}{1 \text{ PbS}} \times \frac{34.02 \text{ g}}{1 \text{ mol H}_2\text{O}_2} = 0.14 \text{ g H}_2\text{O}_2$$

$$0.072 \text{ g H}_2\text{O} \times \frac{1 \text{ mol H}_2\text{O}}{18.02 \text{ g}} \times \frac{1 \text{ PbSO}_4}{4 \text{ H}_2\text{O}} \times \frac{303.27 \text{ g}}{1 \text{ mol PbSO}_4} = 0.30 \text{ g PbSO}_4$$



## PG. 129 #41



$$454 \text{ g } Ca_3(PO_4)_2 \times \frac{1 \text{ mol } Ca_3(PO_4)_2}{310.18 \text{ g}} \times \frac{6 \text{ SiO}_2}{2 \text{ Ca}_3(PO_4)_2} \times \frac{60.09 \text{ g}}{1 \text{ mol SiO}_2} = 264 \text{ g SiO}_2$$

$$454 \text{ g } Ca_3(PO_4)_2 \times \frac{1 \text{ mol } Ca_3(PO_4)_2}{310.18 \text{ g}} \times \frac{10 \text{ C}}{2 \text{ Ca}_3(PO_4)_2} \times \frac{12.01 \text{ g}}{1 \text{ mol C}} = 87.9 \text{ g C}$$

$$454 \text{ g } Ca_3(PO_4)_2 \times \frac{1 \text{ mol } Ca_3(PO_4)_2}{310.18 \text{ g}} \times \frac{1 \text{ P}_4}{2 \text{ Ca}_3(PO_4)_2} \times \frac{123.88 \text{ g}}{1 \text{ mol P}_4} = 90.7 \text{ g P}_4$$

