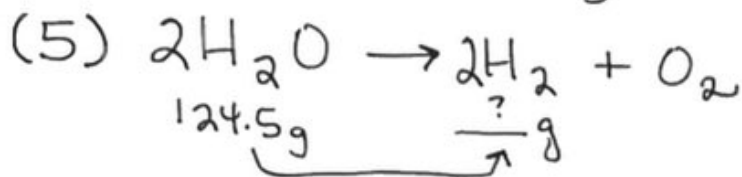
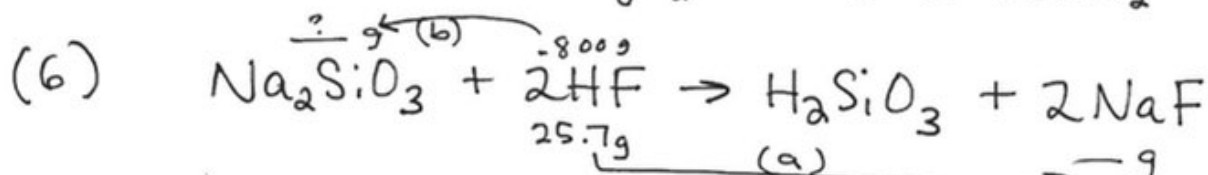


Stoichiometry Problems 2 (5-8)



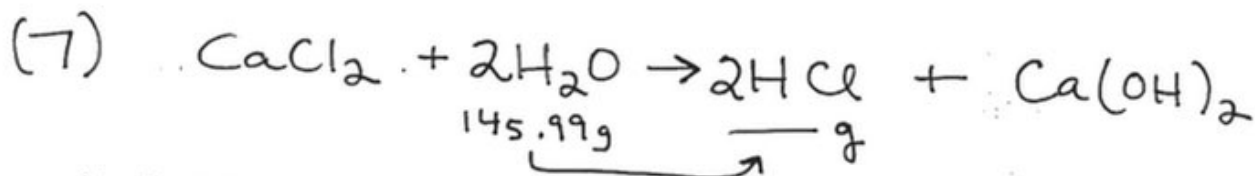
$$\frac{124.5\text{g H}_2\text{O}}{1} \times \frac{1\text{ mol H}_2\text{O}}{18.02\text{g H}_2\text{O}} \times \frac{2\text{ mol H}_2}{2\text{ mol H}_2\text{O}} \times \frac{2.02\text{g H}_2}{1\text{ mole H}_2} = \boxed{14.0\text{g H}_2}$$

13.956

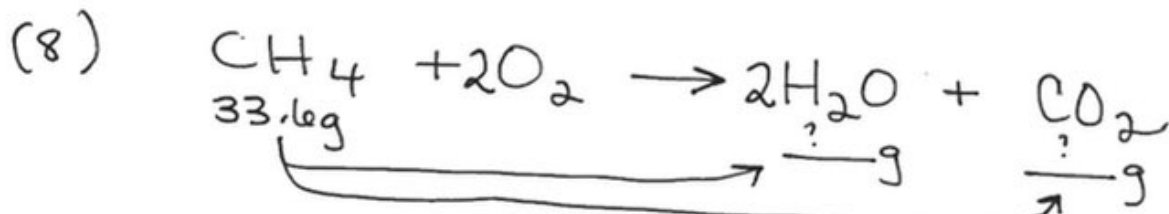


$$(a) \frac{25.7\text{g HF}}{1} \times \frac{1\text{ mol HF}}{20.01\text{g HF}} \times \frac{2\text{ moles NaF}}{2\text{ moles HF}} \times \frac{41.99\text{g NaF}}{1\text{ mol NaF}} = \boxed{53.9\text{g NaF}}$$

$$(b) \frac{.800\text{g HF}}{1} \times \frac{1\text{ mol HF}}{20.01\text{g HF}} \times \frac{1\text{ mol Na}_2\text{SiO}_3}{2\text{ mol HF}} \times \frac{122.07\text{g Na}_2\text{SiO}_3}{1\text{ mol Na}_2\text{SiO}_3} = \boxed{2.44\text{g Na}_2\text{SiO}_3}$$



$$\frac{145.99\text{g H}_2\text{O}}{1} \times \frac{1\text{ mol H}_2\text{O}}{18.02\text{g H}_2\text{O}} \times \frac{2\text{ mol HCl}}{2\text{ mol H}_2\text{O}} \times \frac{36.46\text{g HCl}}{1\text{ mol HCl}} = \boxed{295.4\text{g HCl}}$$



$$\frac{33.6\text{g CH}_4}{1} \times \frac{1\text{ mol CH}_4}{16.05\text{g CH}_4} \times \frac{2\text{ mol H}_2\text{O}}{1\text{ mol CH}_4} \times \frac{18.02\text{g H}_2\text{O}}{1\text{ mol H}_2\text{O}} = \boxed{75.4\text{g H}_2\text{O}}$$

$$\frac{33.6\text{g CH}_4}{1} \times \frac{1\text{ mol CH}_4}{16.05\text{g CH}_4} \times \frac{1\text{ mol CO}_2}{1\text{ mol CH}_4} \times \frac{44.01\text{g CO}_2}{1\text{ mol CO}_2} = \boxed{92.1\text{g CO}_2}$$