

Name :

Date :

STOICHIOMETRY PROBLEM SOLVING

Use the balanced equations and given data to solve each stoichiometry problem with one clear calculation.

1. In $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$, if 4 g of H_2 react with excess O_2 , how many grams of H_2O are produced?

36g

2. In $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$, if you have 2 moles of N_2 with excess H_2 , how many moles of NH_3 are produced?

4 moles

3. In $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$, if you have 0.5 moles of Na with excess Cl_2 , how many moles of NaCl are produced?

0.5 moles

4. In $\text{Mg} + \text{O}_2 \rightarrow \text{MgO}$, if you have 24.3 g of Mg (1 mole) with excess O_2 , how many grams of MgO ($M = 40.3 \text{ g/mol}$) are produced?

40.3 g

5. In $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$, if 1 mole of CH_4 is burned, how many moles of CO_2 are produced?

1 mole

6. In $\text{C}_3\text{H}_8 + 5\text{O}_2 \rightarrow 3\text{CO}_2 + 4\text{H}_2\text{O}$, if 1 mole of C_3H_8 is burned, how many moles of CO_2 are produced?

3 moles

7. In $2\text{Al} + 3\text{Cl}_2 \rightarrow 2\text{AlCl}_3$, if you have 3 moles of Cl_2 with excess Al , how many moles of AlCl_3 are produced?

2 moles

8. In $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$, if you have 2 moles of HCl with excess Zn , how many moles of H_2 are produced?

1 mole
