

## 11-1 Practice Problems

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- Lead will react with hydrochloric acid to produce lead(II) chloride and hydrogen. How many moles of hydrochloric acid are needed to completely react with 0.36 mol of lead?
- How many moles of  $\text{HNO}_3$  will be produced when 0.51 mol of  $\text{N}_2\text{O}_5$  reacts according to the following equation?  
$$\text{N}_2\text{O}_5 + \text{H}_2\text{O} \rightarrow 2\text{HNO}_3$$
- Carbon will react with zinc oxide to produce zinc and carbon dioxide. How many moles of carbon dioxide will be produced if 0.38 mol of  $\text{ZnO}$  is completely reacted?
- How many moles of  $\text{NaBr}$  will be produced when 0.69 mol of bromine reacts according to the following equation?  
$$\text{Br}_2 + 2\text{NaI} \rightarrow 2\text{NaBr} + \text{I}_2$$
- Phosphorus will react with bromine to produce phosphorus tribromide. How many moles of phosphorus tribromide will be produced if 0.78 mol of bromine is reacted?
- How many moles of hydrogen will be produced if 0.44 mol of  $\text{CaH}_2$  reacts according to the following equation?  
$$\text{CaH}_2 + 2\text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2 + 2\text{H}_2$$
- How many moles of oxygen will be needed to react with 0.38 mol of  $\text{C}_3\text{H}_8$  according to the following equation?  
$$\text{C}_3\text{H}_8 + 5\text{O}_2 \rightarrow 3\text{CO}_2 + 4\text{H}_2\text{O}$$
- Nitrogen can react with hydrogen to produce ammonia. How many moles of nitrogen will be needed to produce 0.48 mol of  $\text{NH}_3$ ?
- Iron will react with oxygen to produce  $\text{Fe}_2\text{O}_3$ . How many moles of  $\text{Fe}_2\text{O}_3$  will be produced if 0.18 mol of  $\text{Fe}$  reacts?
- How many moles of water will be produced if 2.35 mol of oxygen reacts according to the following equation?  
$$2\text{C}_6\text{H}_6 + 15\text{O}_2 \rightarrow 12\text{CO}_2 + 6\text{H}_2\text{O}$$