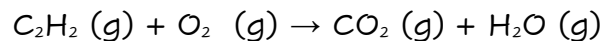


Stoichiometry Part 1 Answer Key

Use the following chemical equation to answer the questions:



a) Write a _____ chemical reaction.



b) Write a mole ratio for C_2H_2 and O_2 .

$$\frac{2 \text{ mol C}_2\text{H}_2}{5 \text{ mol O}_2} \text{ or } \frac{5 \text{ mol O}_2}{2 \text{ mol C}_2\text{H}_2}$$

c) Write a mole ratio for C_2H_2 and CO_2

$$\frac{2 \text{ mol C}_2\text{H}_2}{4 \text{ mol CO}_2} \text{ or } \frac{4 \text{ mol CO}_2}{2 \text{ mol C}_2\text{H}_2}$$

d) How many moles of oxygen will react with 3.25 moles of C_2H_2 ?

$$3.25 \text{ mol C}_2\text{H}_2 \times \frac{5 \text{ mol O}_2}{2 \text{ mol C}_2\text{H}_2} = 8.13 \text{ mol O}_2$$

e) How many moles of CO_2 will form if 0.62 moles of C_2H_2 is reacted?

$$0.62 \text{ mol C}_2\text{H}_2 \times \frac{4 \text{ mol CO}_2}{2 \text{ mol C}_2\text{H}_2} = 1.2 \text{ mol CO}_2$$

f) How many grams of C_2H_2 are required to react with 8.5 moles of O_2 ?



$$1 \text{ mole C}_2\text{H}_2 = 26.04 \text{ g}$$

$$8.5 \text{ mol O}_2 \times \frac{2 \text{ mol C}_2\text{H}_2}{5 \text{ mol O}_2} \times \frac{26.04 \text{ g}}{1 \text{ mol C}_2\text{H}_2} = 87 \text{ g C}_2\text{H}_2$$