

Balance the following equations. Then, considering the starting reaction mixture, draw what the reaction would look like after the reaction proceeds. Under "Excess" list how many and what reactant molecule remain after the reaction stops.

5. 
$$2 \text{H}_2 + \text{O}_2 \rightarrow 2 \text{H}_2\text{O}$$

Handwritten:  $\text{H}=4$ ,  $\text{O}=2$  (Before);  $\text{H}=4$ ,  $\text{O}=2$  (After)

Before:

After:

Excess:  $\frac{2}{\#} \text{O}_2$  (molecule)

6. 
$$\text{C}_2\text{H}_4 + 3 \text{O}_2 \rightarrow 2 \text{CO}_2 + 2 \text{H}_2\text{O}$$

Handwritten:  $\text{C}=2$ ,  $\text{H}=4$ ,  $\text{O}=6$  (Before);  $\text{C}=2$ ,  $\text{H}=4$ ,  $\text{O}=6$  (After)

Before:

After:

Excess:  $\frac{1}{\#} \text{C}_2\text{H}_4$  (molecule)

7. 
$$\text{CH}_4 + 2 \text{O}_2 \rightarrow \text{CO}_2 + 2 \text{H}_2\text{O}$$

Handwritten:  $\text{C}=1$ ,  $\text{H}=4$ ,  $\text{O}=4$  (Before);  $\text{C}=1$ ,  $\text{H}=4$ ,  $\text{O}=4$  (After)

Before:

After:

Excess:  $\frac{2}{\#} \text{O}_2$  (molecule)

8. 
$$2 \text{C} + 2 \text{H}_2\text{O} \rightarrow \text{CH}_4 + \text{CO}_2$$

Handwritten:  $\text{C}=2$ ,  $\text{H}=4$ ,  $\text{O}=2$  (Before);  $\text{C}=2$ ,  $\text{H}=4$ ,  $\text{O}=2$  (After)

Before:

After:

Excess:  $\frac{3}{\#} \text{C}$  (molecule)