

Combustion
Practice for proficiency

1. Your body chemistry is mimicking a combustion reaction.
 - a. What do you breathe in? O_2
 - b. What do you breathe out? $CO_2 + H_2O$

2. In the box below write out the general format template for a complete and incomplete combustion.

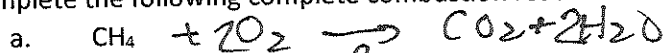
Complete: fuel + $O_2 \rightarrow CO_2 + H_2O$

Incomplete: fuel + $O_2 \rightarrow CO + H_2O$

3. Under what conditions might a combustion reaction result in incomplete combustion?

Reduced oxygen

4. Complete the following complete combustion reactions and balance them.



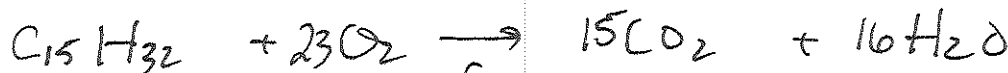
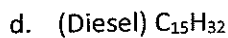
C
4H4
4O4



3C3
8H8
0 10

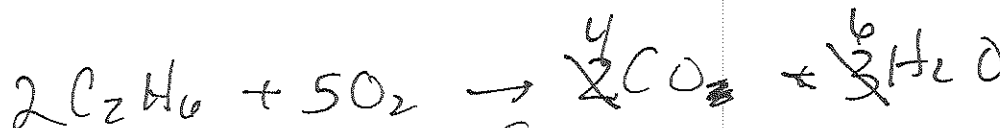


7C
8H16
0 22



C
15H
0 46

5. C_2H_6 is commonly burned in furnaces. A friend of yours has their water heater vent all gases to their basement and does not have any issues. However, a mechanical issue started and is now causing the furnace to burn with incomplete combustion. Write out and balance this process below. What is the issue here relative to one's health and the situation above.



C
4H
0 5 10