

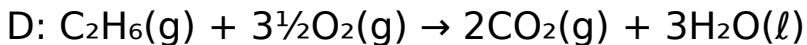
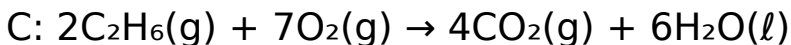
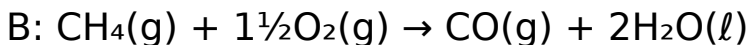
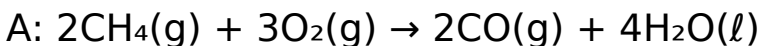
# 2023 Ch H1 Q12

Section: Chemistry in Society

Topic: Chemical Energy

## Question Summary

Which of the following equations represents an enthalpy of combustion?



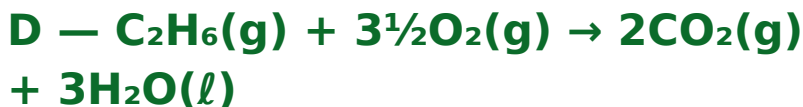
## Worked Solution

The enthalpy of combustion is defined as the energy released when 1 mole of a substance burns completely in oxygen to produce carbon dioxide and water.

- Option A produces carbon monoxide, so incomplete combustion.
- Option B also produces carbon monoxide, so incomplete combustion.
- Option C shows 2 moles of ethane burning, but the enthalpy of combustion must be written for 1 mole.

- Option D shows 1 mole of ethane burning completely to CO<sub>2</sub> and H<sub>2</sub>O — correct.

### **Final Answer**



### **Revision Tips**

- Combustion must be complete: products are always CO<sub>2</sub> and H<sub>2</sub>O.
- Definition uses 1 mole of the fuel.
- Check equations for balancing and correct stoichiometry.