

Solutions

Each answer shows the steps, then the **result**.

2.1

- $\Delta H \approx \Sigma(\text{bonds broken}) - \Sigma(\text{bonds formed})$

2.2

- Absorbs energy

2.3

- $\Delta H = 700 - 900 = -200 \text{ kJ}$

3.1 B

- stronger bonds formed release more energy, giving a negative ΔH

3.2

(a)

- $436 + 193 = 629 \text{ kJ}$

(b)

- $2 \times 366 = 732 \text{ kJ}$

(c)

- $\Delta H = 629 - 732 = -103 \text{ kJ}$, exothermic

3.3

- Bond enthalpies are **average** values over many molecules, so the actual bond strengths differ slightly, making the result approximate