

Solutions

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

2.1

- Zero

2.2

- $\Delta H_{\text{rxn}} = \Sigma \Delta H_f(\text{products}) - \Sigma \Delta H_f(\text{reactants})$

2.3

- $-500 - (-200) = -300 \text{ kJ}$

3.1 B

- an element in its standard state has $\Delta H_f^\circ = 0$

3.2

(a)

- Both 0 (elements)

(b)

- $\Delta H = 2(-286) - [2(0) + 0] = -572 \text{ kJ}$

3.3

- products = $2(-394) + 2(-286) = -1360$; reactants = $52 + 3(0) = 52$; $\Delta H = -1360 - 52 = -1412 \text{ kJ}$