

Solutions

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

2.1

- It stays constant

2.2

- $q = n \Delta H_{\text{fus}}$

2.3

- Boiling

3.1 B

- overcoming intermolecular forces

3.2

(a)

- $q = (2.0)(6.0) = 12 \text{ kJ}$

(b)

- The temperature stays constant (at the melting point)

3.3

- Boiling requires more energy ($\Delta H_{\text{vap}} > \Delta H_{\text{fus}}$) because it fully separates the particles, so at the same heating rate it takes longer, giving a longer plateau