

Solutions

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

2.1

- the change in internal energy equals the heat added plus the work done on the gas,
 $\Delta U = Q + W$

2.2

- $\Delta U = Q + W = 500 + 200 = 700 \text{ J}$

2.3

- $W = 0$ — no volume change means no work is done on or by the gas

3.1 B

3.2 A

3.3

(a)

- $\Delta U = Q + W = (-100) + (+300) = +200 \text{ J}$

(b)

- it rises ($\Delta U > 0$)