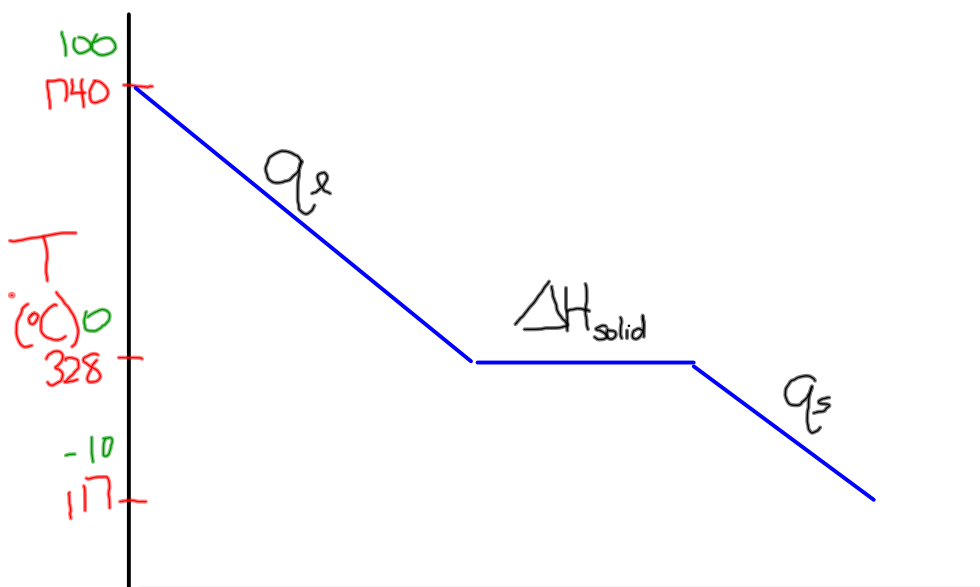


Check Homework - Worksheet



$$\Delta E_T = q_r + \Delta H_{\text{solid}} + q_s$$

Step 1: q_r

$$q_r = mC\Delta T$$

$$q_r = (150.0\text{g})(0.159 \frac{\text{J}}{\text{g}\cdot^\circ\text{C}})(-142^\circ\text{C})$$

$$q_r = -33676.2 \text{ J}$$

$$\Delta H_{\text{solid}} = n\Delta H_{\text{solid}}$$

$$\Delta H_{\text{solid}} = \left(\frac{150.0\text{g}}{201.20\frac{\text{g}}{\text{mol}}}\right)\left(-4.77 \frac{\text{kJ}}{\text{mol}}\right)$$

$$\Delta H_{\text{solid}} = -3.453 \text{ kJ}$$

$$q_s = mC\Delta T$$

$$q_s = (150.0\text{g})(0.159 \frac{\text{J}}{\text{g}\cdot^\circ\text{C}})(-211^\circ\text{C})$$

$$q_s = -5032.35 \text{ J}$$

$$\Delta E_T = q_r + \Delta H_{\text{solid}} + q_s$$

$$\Delta E_T = (-33.672 \text{ kJ}) + (-3.453 \text{ kJ}) + (-5.03235 \text{ kJ})$$

$$\Delta E_T = -42.2 \text{ kJ}$$

Total Energy Problems

Worksheet 55