

Solving Specific Heat Equation

$$q = C \cdot m \cdot \Delta T$$

$$\Delta T = T_{\text{final}} - T_{\text{ini}}$$

$$m = \frac{q}{C \cdot \Delta T}$$

$$\Delta T = \frac{q}{C \cdot m}$$

$$C = \frac{q}{m \cdot \Delta T}$$

$$q = C \cdot m \cdot \Delta T$$

$$\frac{q}{m \cdot \Delta T} = \frac{C \cdot m \cdot \Delta T}{m \cdot \Delta T}$$

$$C = \frac{q}{m \cdot \Delta T} \quad \frac{\text{J}}{\text{g} \cdot ^\circ\text{C}}$$

Solving Specific Heat Equation

$$q = C \cdot m \cdot \Delta T$$

$$\Delta T = T_{\text{final}} - T_{\text{ini}}$$

$$m = \frac{q}{C \cdot \Delta T}$$

$$\Delta T = \frac{q}{C \cdot m}$$

$$C = \frac{q}{m \cdot \Delta T}$$

$$q = 150 \text{ J}$$

$$m = 110 \text{ g}$$

$$\Delta T = 1.7^\circ\text{C}$$

$$C = \frac{\text{J}}{\text{g} \cdot ^\circ\text{C}}$$

$$C = \frac{q}{m \cdot \Delta T}$$

$$C = \frac{150 \text{ J}}{110 \text{ g} \times 1.7^\circ\text{C}}$$

$$C = 0.80 \text{ J/g} \cdot ^\circ\text{C}$$

Solving Specific Heat Equation

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$$q = C \cdot m \cdot \Delta T$$
$$\Delta T = T_{\text{final}} - T_{\text{ini}}$$

$$m = \frac{q}{C \cdot \Delta T}$$
$$\Delta T = \frac{q}{C \cdot m} \checkmark$$

$$C = \frac{q}{m \cdot \Delta T}$$

$$q = -160 \text{ J} \quad m = 3.91 \text{ g}$$
$$C_{\text{H}_2\text{O}} = 0.90 \text{ J/g} \cdot ^\circ\text{C} \quad \Delta T = \text{---} ^\circ\text{C}$$

$$\Delta T = \frac{q}{C \cdot m} = \frac{-160 \text{ J}}{0.90 \text{ J/g} \cdot ^\circ\text{C} \cdot 3.91 \text{ g}}$$
$$= -45.47 ^\circ\text{C}$$

Temp is going down

Quiz Review

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① Find ΔT (+ or -)

$$\Delta T = T_{\text{final}} - T_{\text{ini}}$$

② Find q (+ or -)

$$q = C \cdot m \cdot \Delta T$$

↑ step ①