

Str. 136 / úloha 728

$$V_1 = 350 \text{ l}$$

$$m_1 = 350 \text{ kg}$$

$$t_{01} = 80^\circ\text{C}$$

$$V_2 = 120 \text{ l}$$

$$m_2 = 120 \text{ kg}$$

$$t_{02} = 18^\circ\text{C}$$

$$t = ? [^\circ\text{C}]$$

$$c = 4180 \frac{\text{J}}{\text{kg} \cdot ^\circ\text{C}}$$

$$Q_{\text{tr}} = m_2 \cdot c \cdot (t - t_{02})$$

$$Q_{\text{tr}} = m_1 \cdot c \cdot (t_{01} - t)$$

$$Q_{\text{tr}} = Q_{\text{tr}}$$

$$m_2 \cdot c \cdot (t - t_{02}) = m_1 \cdot c \cdot (t_{01} - t)$$

$$m_2 \cdot (t - t_{02}) = m_1 \cdot (t_{01} - t)$$

$$120 \cdot (t - 18) = 350 \cdot (80 - t)$$

$$120t - 2160 = 28000 - 350t$$

$$120t + 350t = 28000 + 2160$$

$$470t = 30160$$

$$t = 64^\circ\text{C}$$

Výsledná teplota vody je 64°C .