

$$T_f = \frac{(0.25 \text{ kg})(4186 \text{ J/kg} \cdot ^\circ \text{C})(20.0^\circ \text{C}) - (0.018 \text{ kg})(334000 \text{ J/kg})}{(0.25 \text{ kg} + 0.018 \text{ kg})(4186 \text{ K/kg} \cdot ^\circ \text{C})}$$