Isolated: Ice into water

Q: A cooler has a 1.05 kg internal steel liner. It holds 12.6 L of water at 17.5°C. A 0.49 kg block of ice at -5°C is placed inside. Find the equilibrium temperature. (Ignore the steel liner, assume perfect insulation)
Now mix the 2 'blocks' of water

\[ Q = mC\Delta T \]
\[ \Delta T = \frac{Q}{mc} \]
\[ = \frac{169.2}{12.6 \times 4.19} \]
\[ = 3.205 \degree \text{C} \]