

75. We use  $Q = -\lambda_F m_{ice} = W + \Delta E_{\text{int}}$ . In this case  $\Delta E_{\text{int}} = 0$ . Since  $\Delta T = 0$  for the idea gas, then the work done on the gas is

$$W' = -W = \lambda_F m_i = (333 \text{ J/g})(100 \text{ g}) = 33.3 \text{ kJ} .$$