

$$dQ_r = T ds$$

$$C_v = \left(\frac{\partial Q}{\partial T} \right)_V = T \left(\frac{\partial S}{\partial T} \right)_V = \left(\frac{\partial S}{\partial (T/T)} \right)_V = \left(\frac{\partial S}{\partial \ln T} \right)_V$$

