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Response functions

- Use the result from the previous question to show, by expanding δE using the Taylor series, that $\left(\frac{\delta^2 E}{\delta S^2}\right)_V > 0$ and $\left(\frac{\delta^2 E}{\delta V^2}\right)_S > 0$.
- Hence, show that C_v must be greater than zero
- Give the definition of the isentropic compressibility, κ_s .
- Show that $\kappa_s = -\frac{1}{V} \left(\frac{\partial V}{\partial P}\right)_S$



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Response functions

- Explain why the isentropic compressibility must be positive