

[tex144] **Expansion and compression of nitrogen gas**

One mol of N_2 at 25°C undergoes isothermal expansion from 1.0bar to 0.132bar pressure.

- (a) How much work does the gas perform during expansion?
- (b) If the gas is then adiabatically compressed by the same amount of work, what will be its final temperature?

Assume that both processes are quasistatic.

Solution: