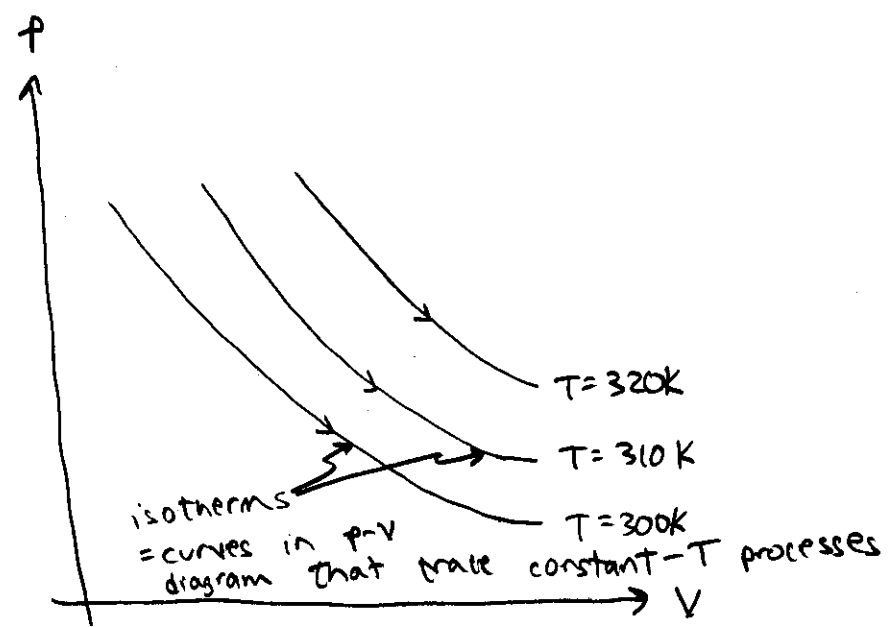


Recap:

isothermal expansion = constant T process.
Occurs as you add heat Q to a gas
and let it expand such that T stays constant



$$K_{avg} = \frac{3}{2} kT = \frac{3RT}{2N_A} = \text{avg KE of a single } \overset{\text{diatomic}}{\text{molecule}} \text{ in an ideal gas}$$

$$N = n N_A = \text{\# of molecules in sample}$$

↑ # of moles in sample

$$M_{\text{sample}} = n M = \text{sample mass}$$

$$M = m N_A = \text{molar mass} = \text{mass of } n=1 \text{ mole}$$

$$k = \frac{R}{N_A} = \text{boltzmann constant}$$