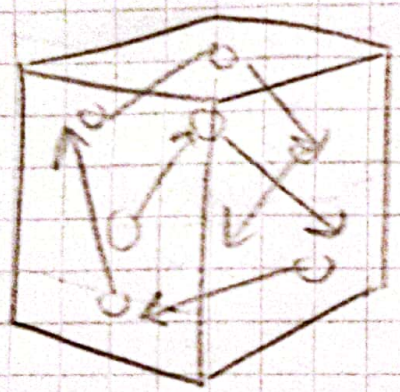
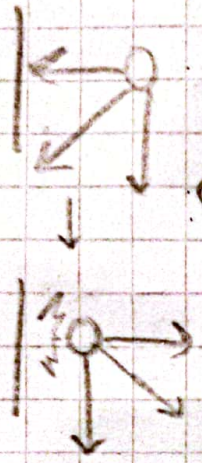
Nicolás David Negrete Ordeñez. 202212661.

DD MM AA

Punto 3.3.5





V_x se conserva

$$V^2 = V_x^2 + V_y^2 + V_z^2$$

$$\frac{1}{3} V_{media}^2 = V_{x\,media}^2$$

$$P = \frac{F}{A} = \frac{N m V_x^2}{V}$$

$$PV = nRT$$

$$PV = \frac{1}{3} N m V_{rms}^2$$

$$\frac{1}{2} PV = \frac{1}{3} N \left(\frac{1}{2} m V_{rms}^2\right)$$

$$PV = \frac{2}{3} E_{int}$$

$$E_{int} = \frac{3}{2} nRT$$

$$N\frac{1}{2} m V_{rms}^2 = \frac{3}{2} nRT \rightarrow V_{rms} = \sqrt{\frac{3nRT}{Nm}} = \sqrt{\frac{3KT}{m}} \leftrightarrow \sqrt{\frac{3RT}{M}}$$