[tex62] **Ideal gas atoms escaping from a container**

A dilute gas is confined to a large vessel in thermal equilibrium at temperature T.

(a) Find the rate at which gas atoms escape into the vacuum through a tiny hole of area A in the wall of the vessel.

(b) If the wall with the hole is perpendicular to the z-axis, find the distribution $f_z(v_z)$ for the gas atoms escaping through the hole.