2) $\bar{r} = n^{-1/3}$ → mean inter-particle spacing
↓
density

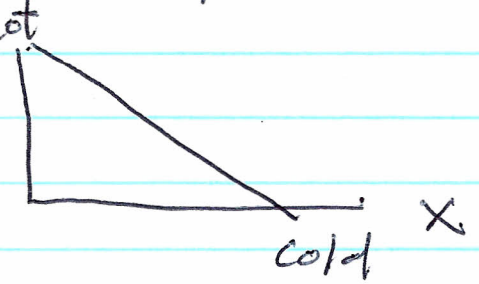
3) $l_{mfp}$ → mean free path – to be calculated

i.e. typical distance between inter-molecular interactions

$l_{mfp} = 1/n\sigma$
↓
cross-section for molecular collision
$\sim \pi d^2$

4) $L$ → macroscopic scale length

i.e.




$$\frac{1}{L_T} = \frac{1}{T}\frac{dT}{dx} \sim \frac{1}{L}$$

$L \sim L_T$, container size, etc.

Basic ordering:

$$d < \bar{r} < l_{mfp} < L$$