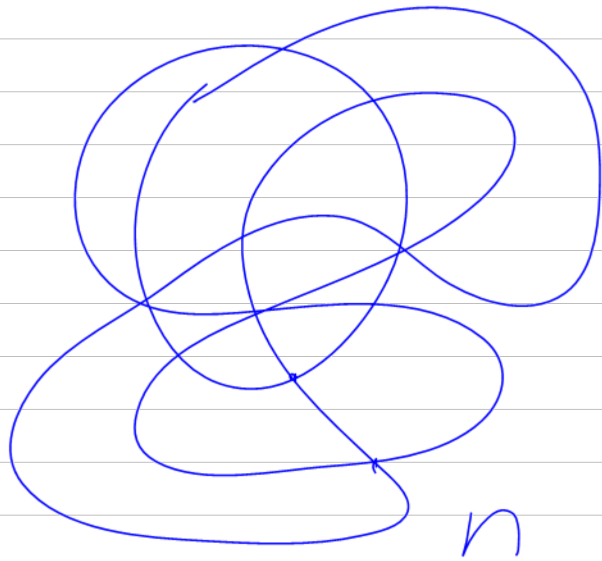
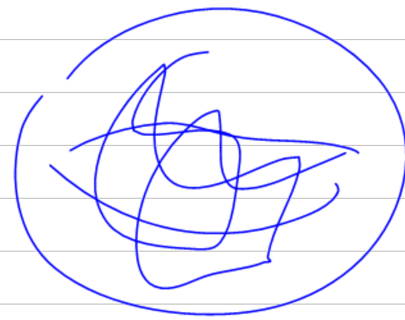


yarn-ball knots.



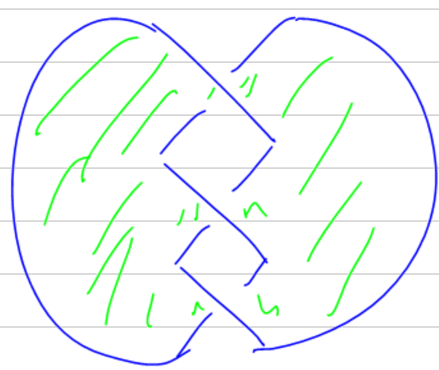
$n$

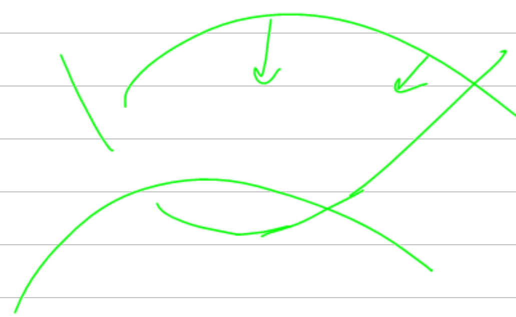
$V = L^3$

$$n = V^{4/3} = L^2 \cdot L^2$$

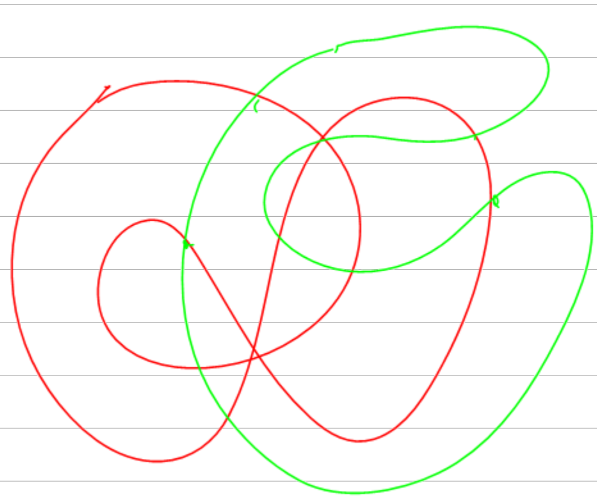
Def $\phi$ is 3D

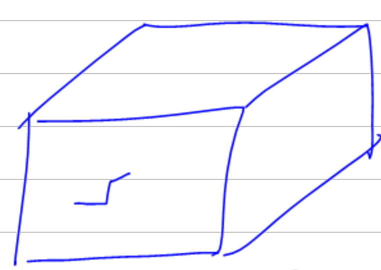
$$C_{YB}(V) \ll C_{PD}(V^{4/3})$$

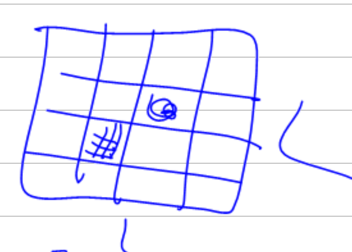




$$C_{PD}(K) = n$$

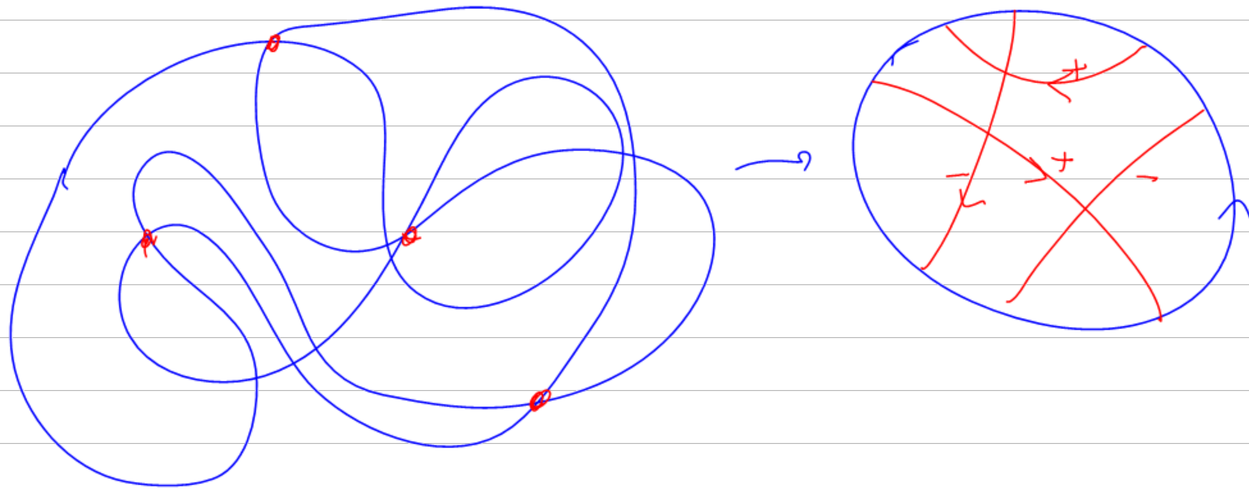






$$L^2 \cdot L = L^3$$

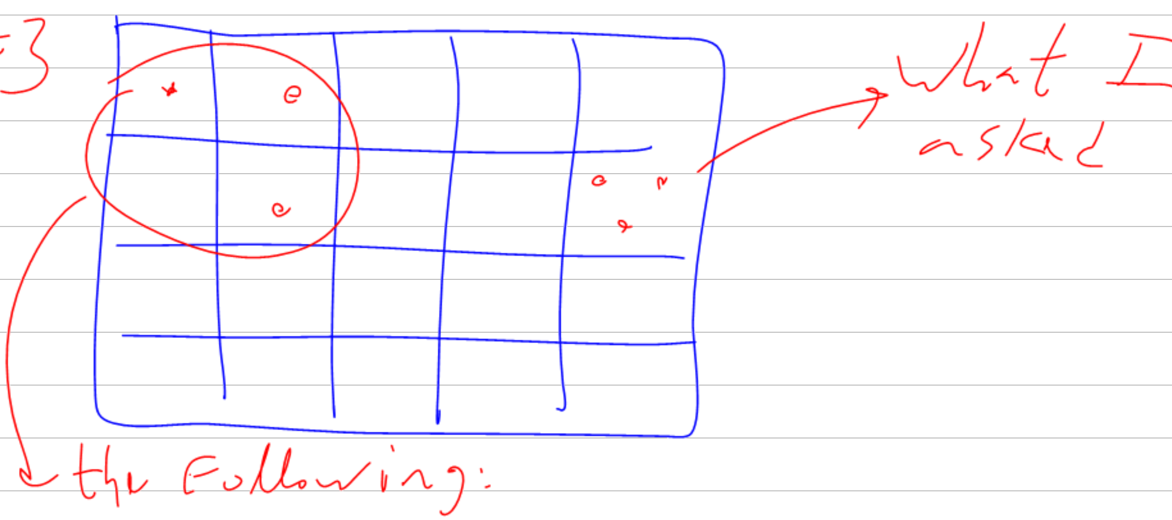
# Gauss Diagram invts: of type p

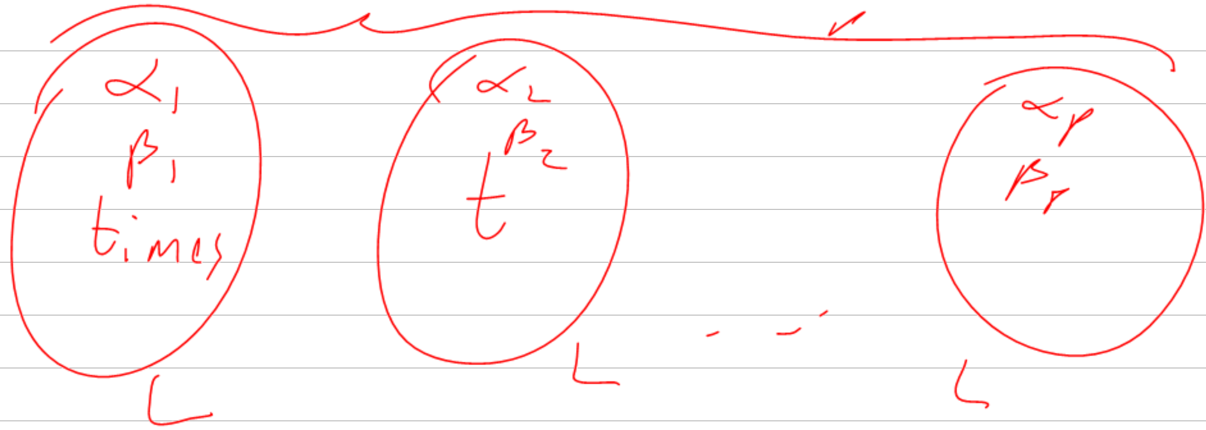



$$C_{PD}(\Upsilon) = n^p$$

$$C_{YB}(\Upsilon)$$

$p = 3$






$h(\alpha_i) < h(\beta_i)$

$\alpha_1 < \beta_1 < \alpha_2 < \alpha_3 < \beta_2 < \alpha_4 \dots$

do that in less than $L^{2p}$

can do $L^{p+1}(\log \dots)$