$C_L(P, \alpha P_\infty)$ $\quad P = P_1 + \dots + P_n$

$r = 1$ $\quad Q \in L(\alpha P_\infty)[Y]$

- $Q(y_i)(P_i) = 0 \quad i = 1 \dots n$ (mult r)
- $Q = \sum Q_i Y^i \quad Q_i \in L(((n-t) - i\alpha)P_\infty)$

$Q_i \in L((r(n-\tau) - i\alpha)P_\infty)$

$(Y - f) \mid Q$

$Q_0 \in L(r(n-\tau)P_\infty)$

$Q_1 \in L((r(n-\tau) - \alpha)P_\infty)$

$\vdots$

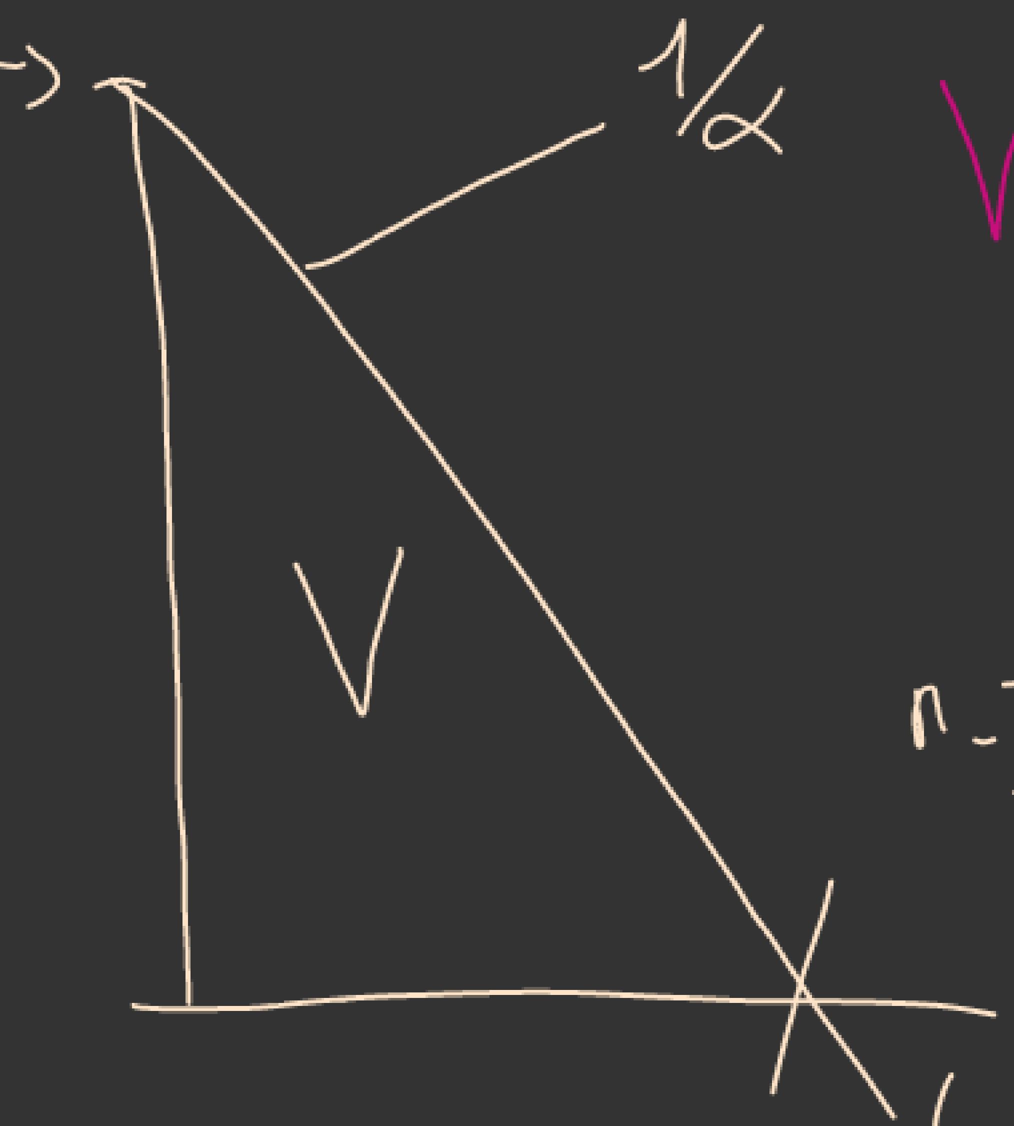
$n_{eq} = n\binom{r+1}{2}$

$r(n-\tau) - g + 1$

$r(n-\tau) - \alpha - g + 1$

$\vdots$

$r(n-\tau) - i\alpha - g + 1$



$V_r = \dfrac{(r(n-t) - g + 1)^2}{2\alpha}$

$V > n$

$\dfrac{(n-t-g+1)(n-t-g+1)}{2\alpha} > n$

$$\frac{(n-t-g+1)^2}{2\alpha} > n$$

$$n-t-g+1 > \sqrt{2\alpha n}$$

$$t < n - \underbrace{\sqrt{2\alpha n}}_{k-1} - g + 1$$

$$\frac{\left(r(n-t)-g+1\right)^2}{2\alpha} > n\binom{r+1}{2} = \frac{nr(r+1)}{2}$$

$$r(n-t)-g+1 > \sqrt{\alpha r(r+1)n}$$

$$n-t > \sqrt{\alpha\left(1+\frac{1}{r}\right)-n} + \frac{g}{r}$$

$$t < n - \sqrt{\alpha\left(1+\frac{1}{r}\right)} - g/r$$