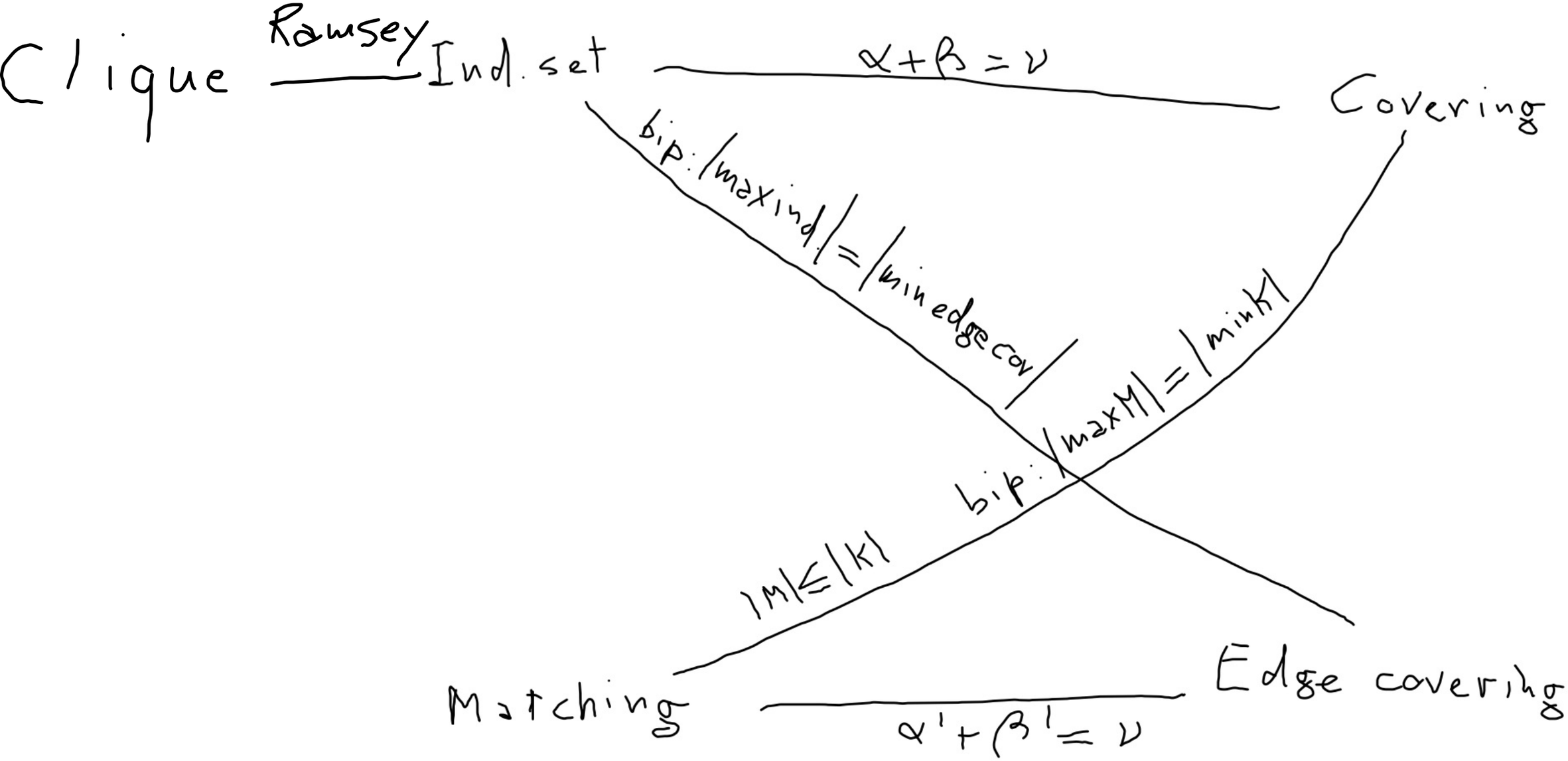
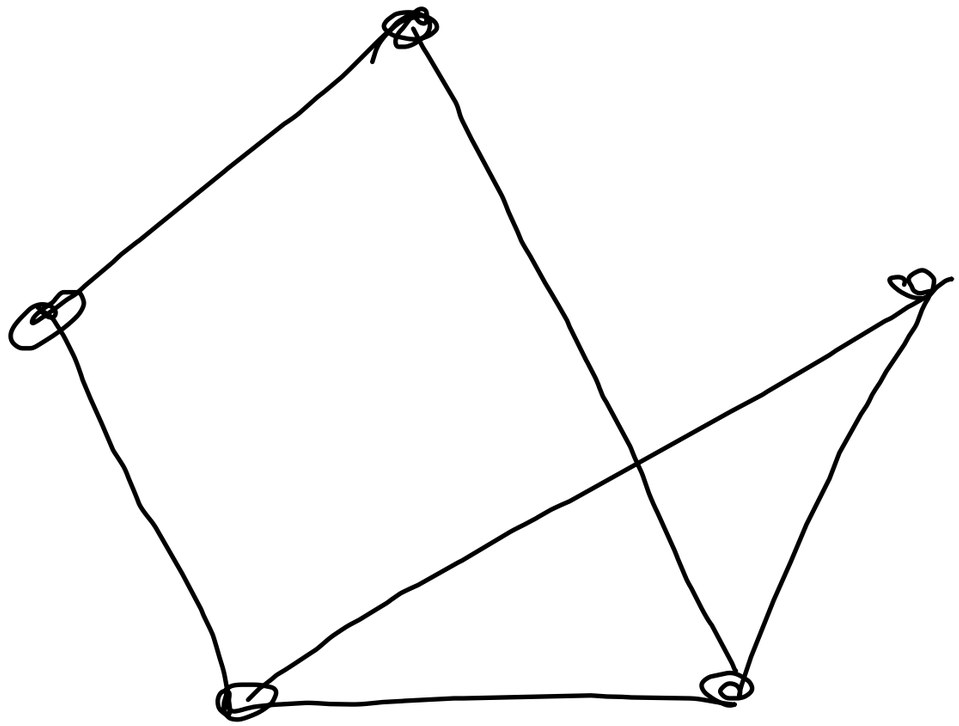
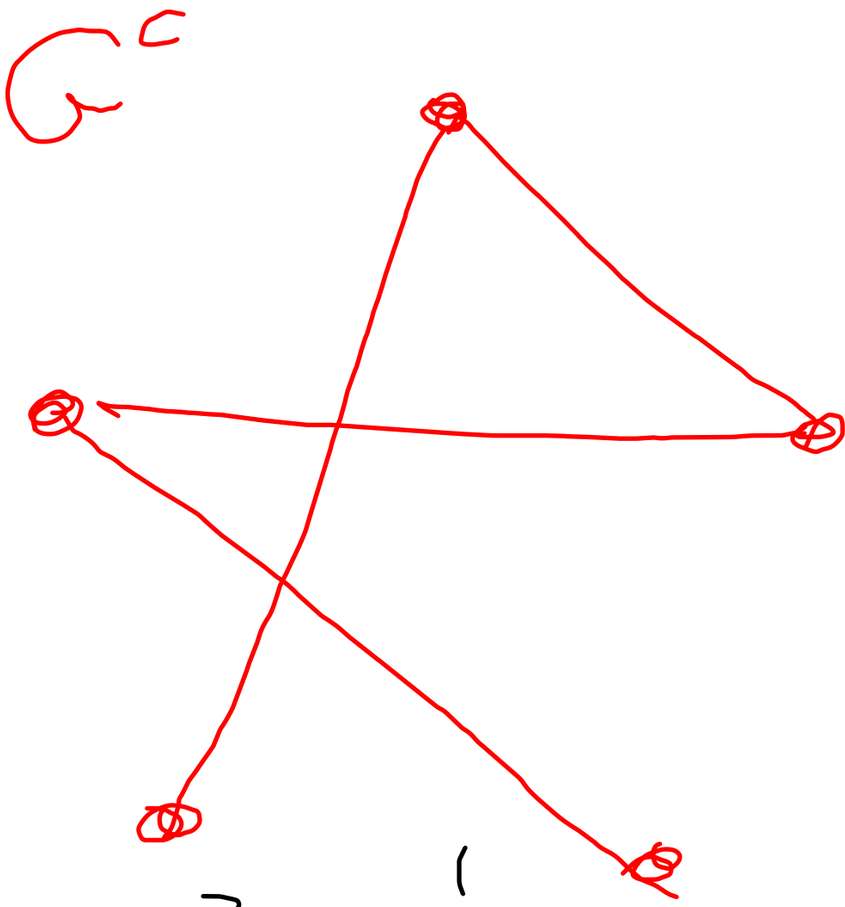

Clique
Ramsey
Ind. set
$\alpha+\beta=\nu$
Covering
bip: $|\max ind.| = |\min edge\ cov|$
$|\max M| = |\min K|$
bip: $|M| \leq |K|$
Matching
$\alpha'+\beta'=\nu$
Edge covering

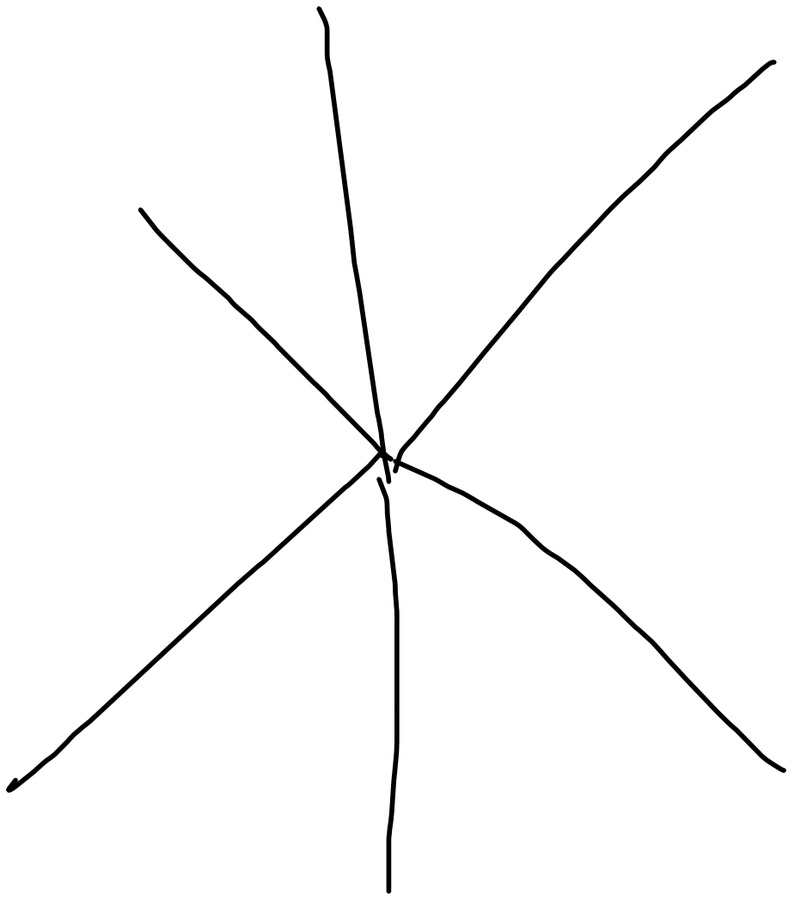
G

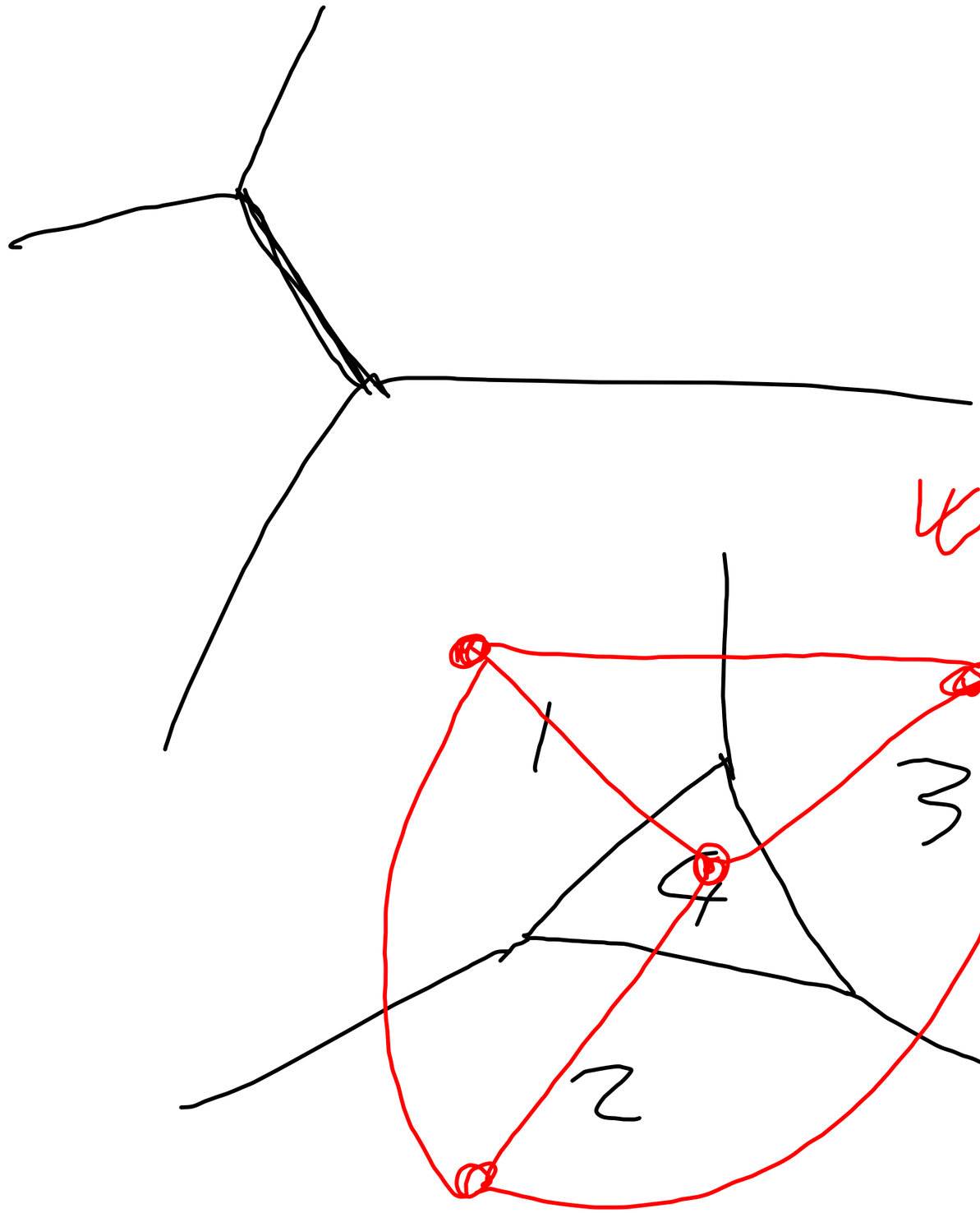


G^c



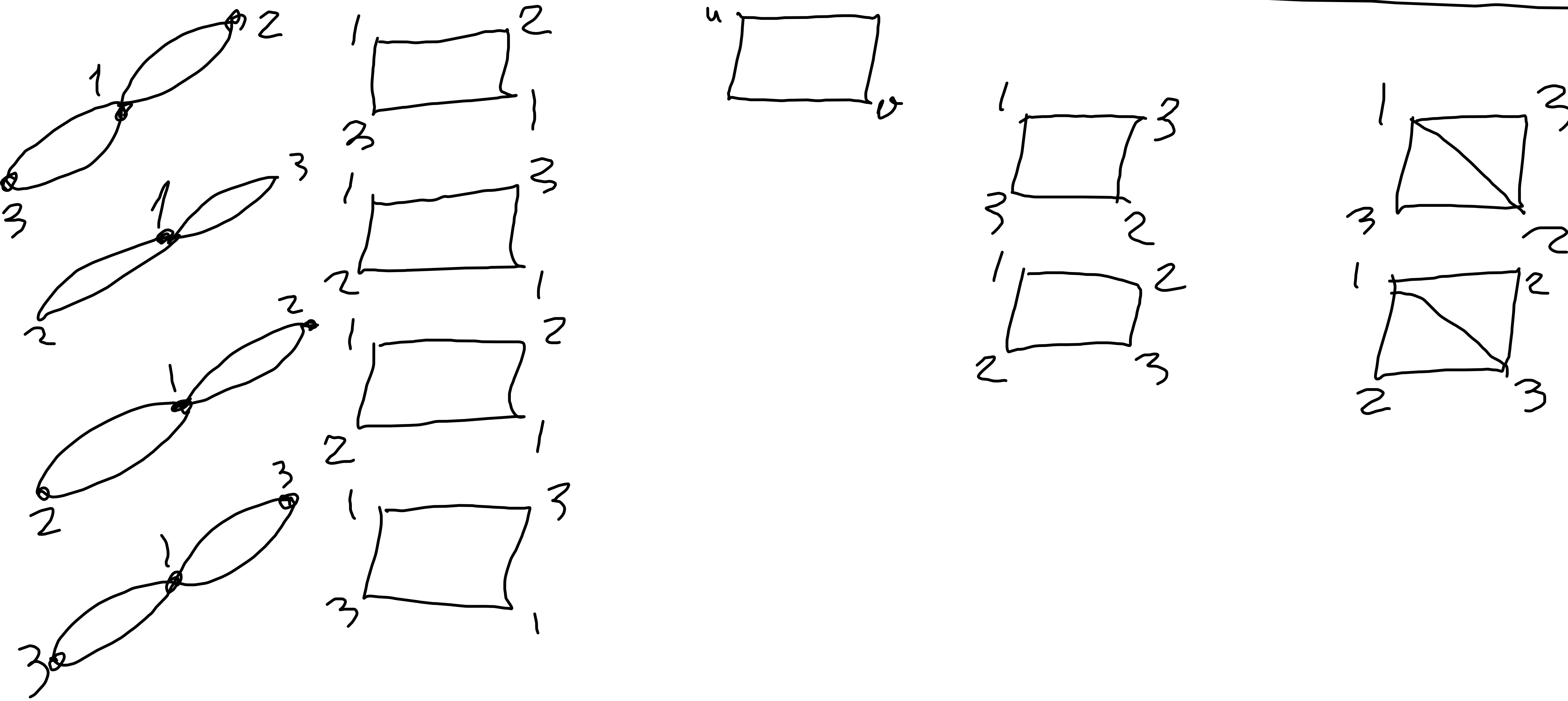
$\Delta \geq k-1 \Longleftrightarrow k \leq \Delta + 1$





Which they did!

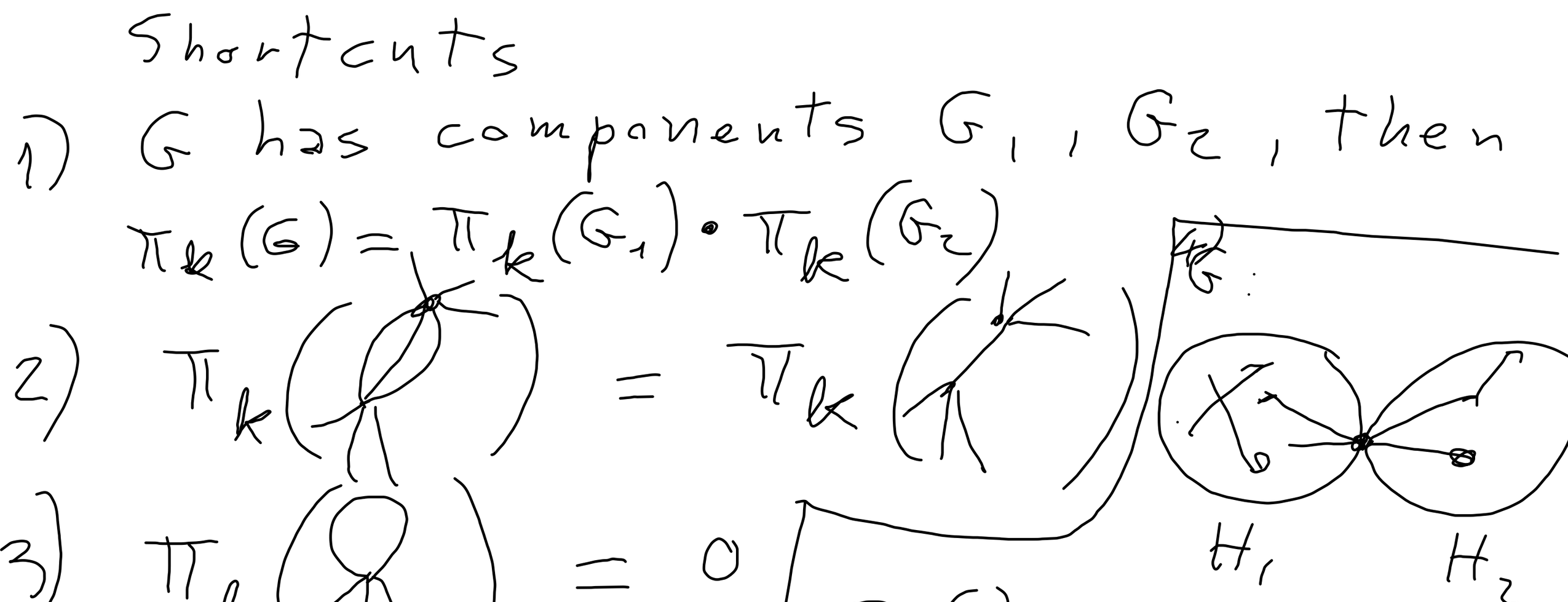
$$\pi_k(G - e) = \pi_k(G) + \pi_k(G \cdot e)$$



Shortcuts

1) G has components G_1, G_2, then

$$\pi_k(G) = \pi_k(G_1) \cdot \pi_k(G_2)$$

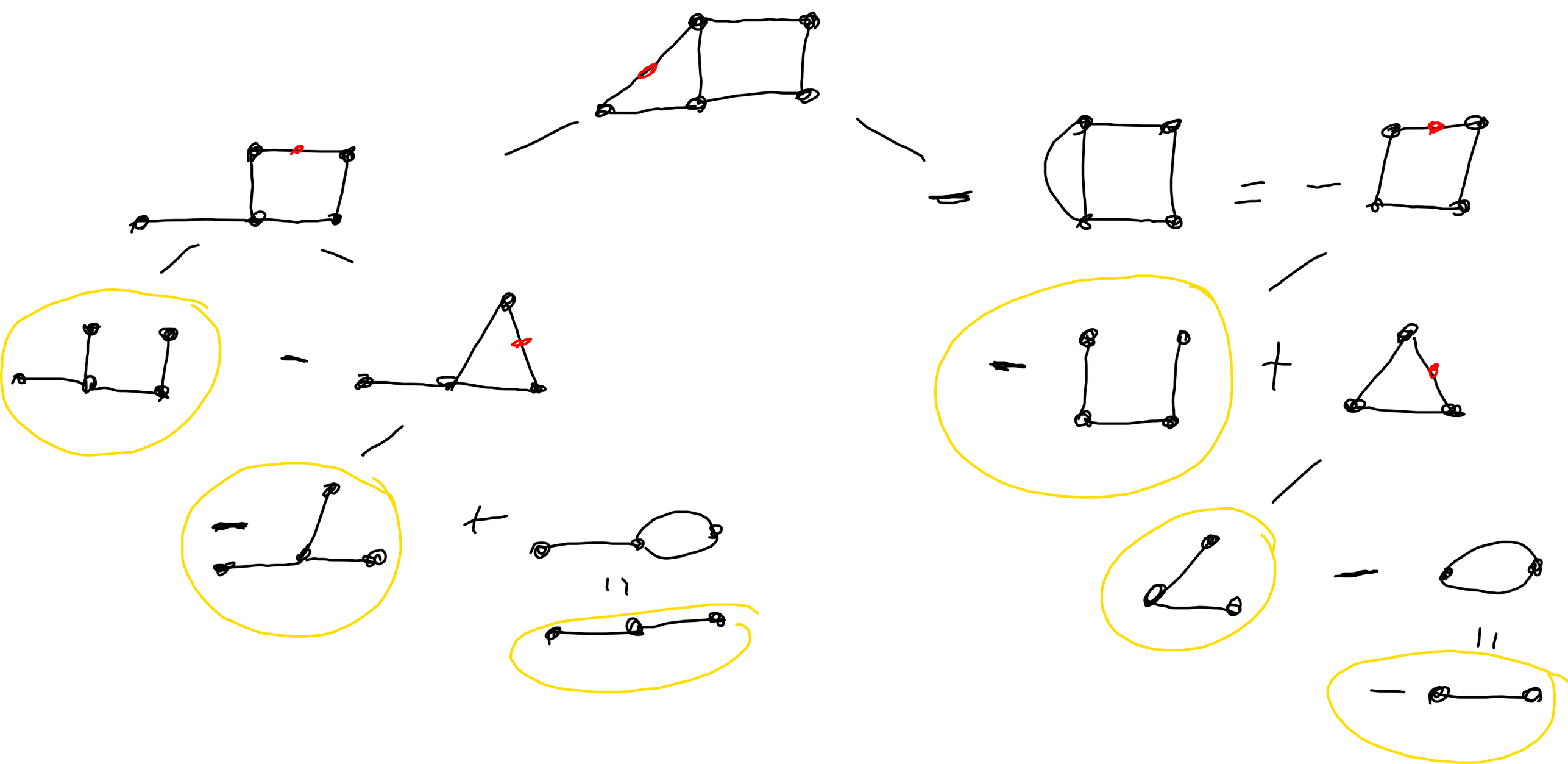


2) π_k ( ) = π_k ( )

3) π_k ( ) = 0

$$\pi_k(G) = \pi_k(H_1) \cdot \pi_k(H_2)$$

k



$$k(k-1)^4 - 2k(k-1)^3 + 2k(k-1)^2 - k(k-1)$$

1 1
1 2 1
1 3 3 1
1 4 6 4 1

$$k^5 - 4k^4 + 6k^3 - 4k^2 + k +$$
$$-2k^4 + 6k^3 - 6k^2 + 2k +$$
$$+2k^3 - 4k^2 + 2k +$$
$$-k^2 + k$$

$$k^5 - 6k^4 + 14k^3 - 15k^2 + 6k$$

OK OK ± OK OK