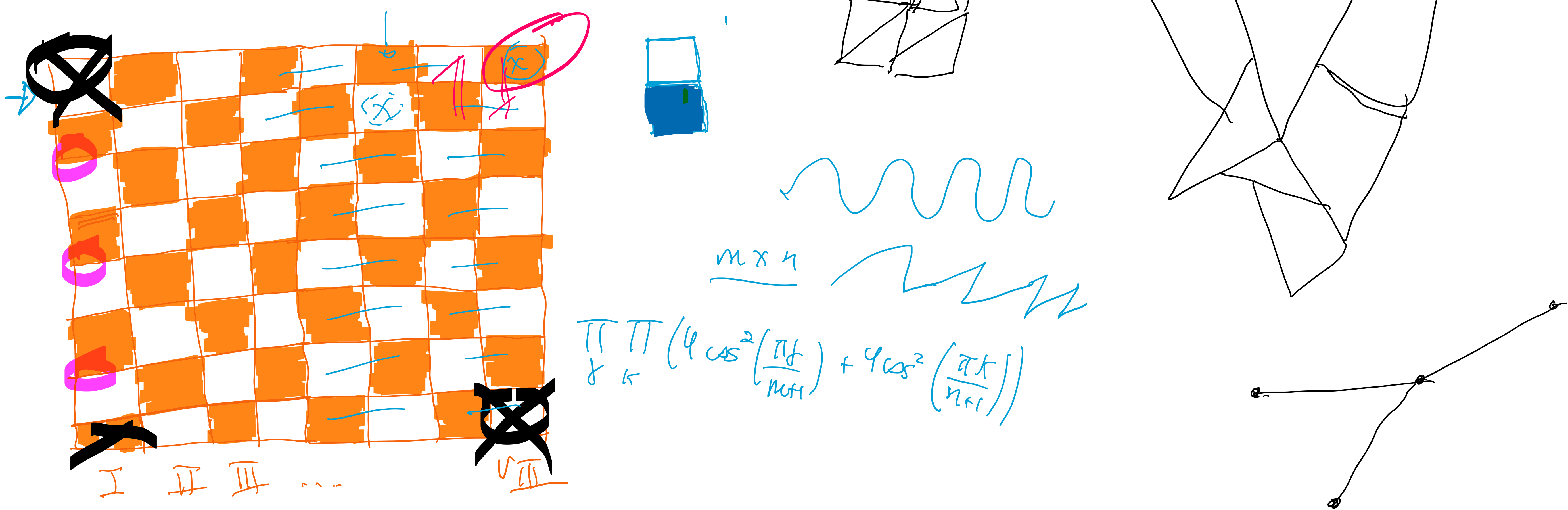


Intuitive proofs



$$\prod_{k=1}^m \prod_{l=1}^n (4 \cos^2(\frac{\pi k}{m+1}) + 4 \cos^2(\frac{\pi l}{n+1}))$$

Proposition: If one crosses out the top-left square of an 8x8 chessboard, the remaining squares cannot be covered.

Proof: After we use K dominos, we have covered $2K$ squares. Therefore, the number of squares covered is always "even" in particular it can't be 63.

Question: If I remove two squares of different colors, is it still possible to cover the remaining squares?

Naming Results

"Theorem": An important result

"Proposition": less important result

"lemma": something needed to prove a result.

"Corollary": Direct consequence of a theorem.

"Remark": An observation

Riemann hypothesis

"Conjecture": An open problem.

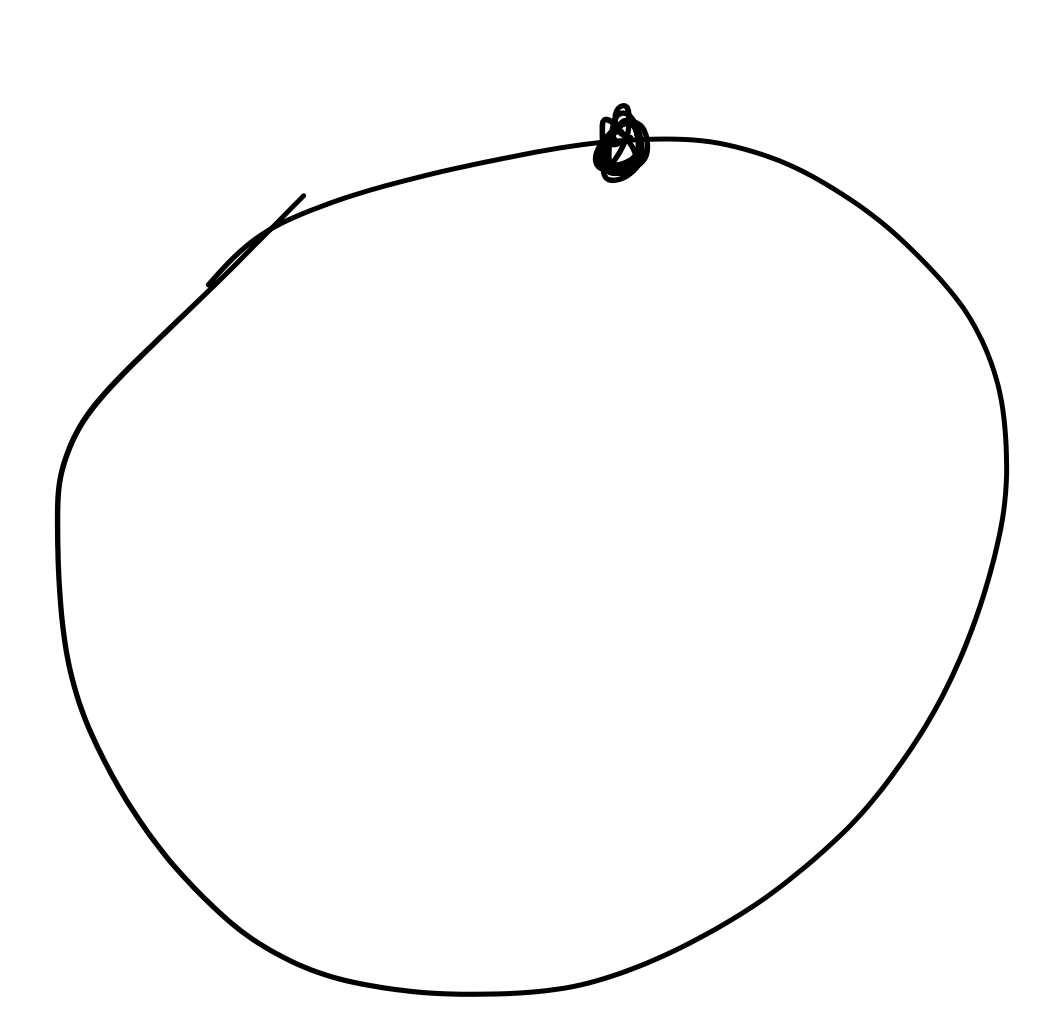
Grigori Perelman

"E.g." = "for example." Poincare Conjecture

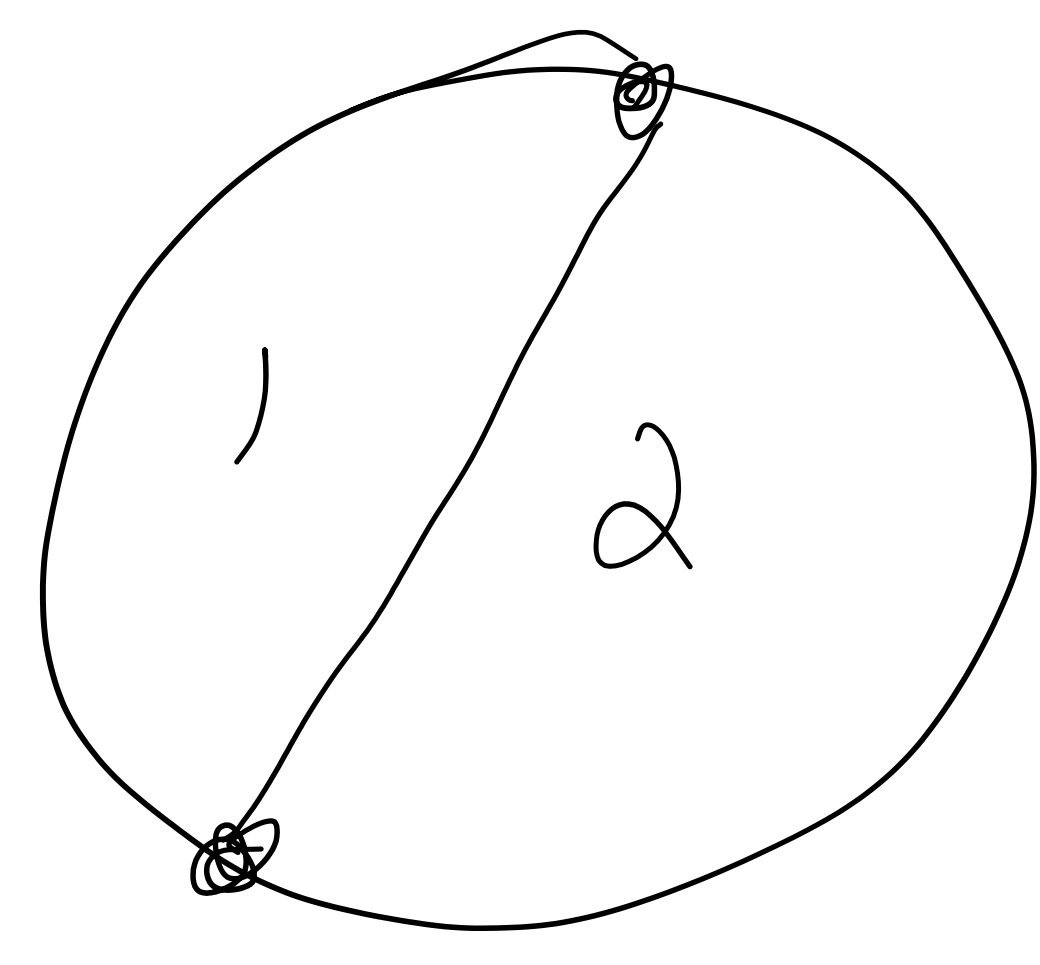
"i.e." = "That is..."

"q.e.d." = "Like I said or end of the proof"

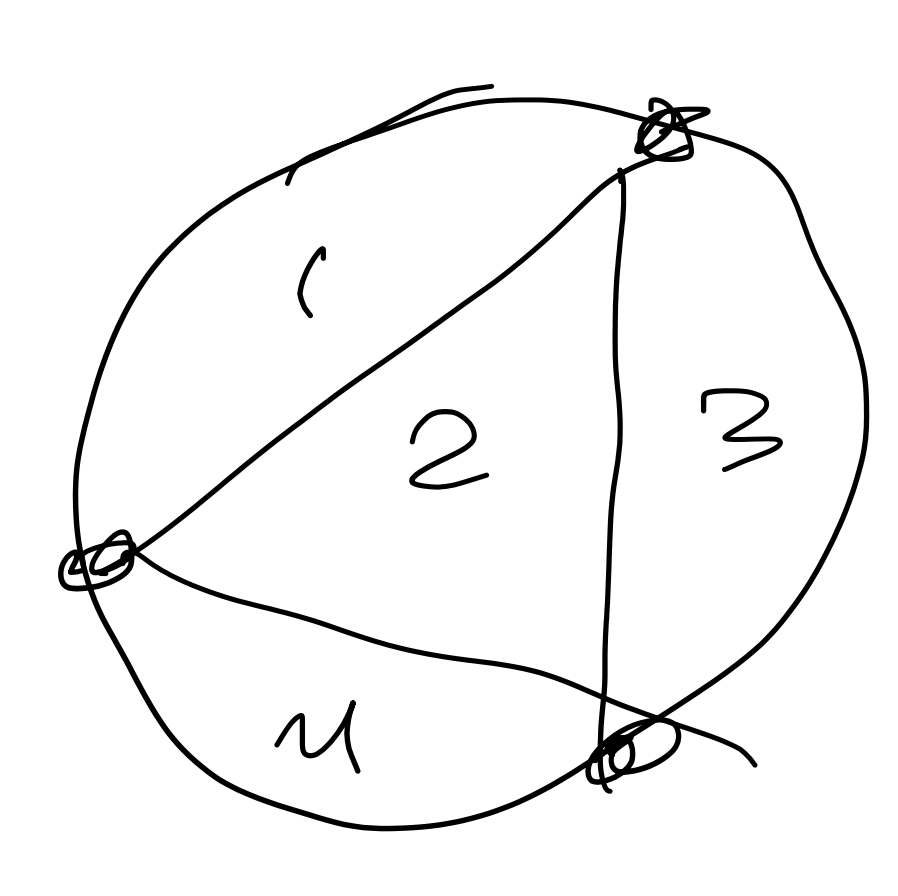
Nice Conjecture:



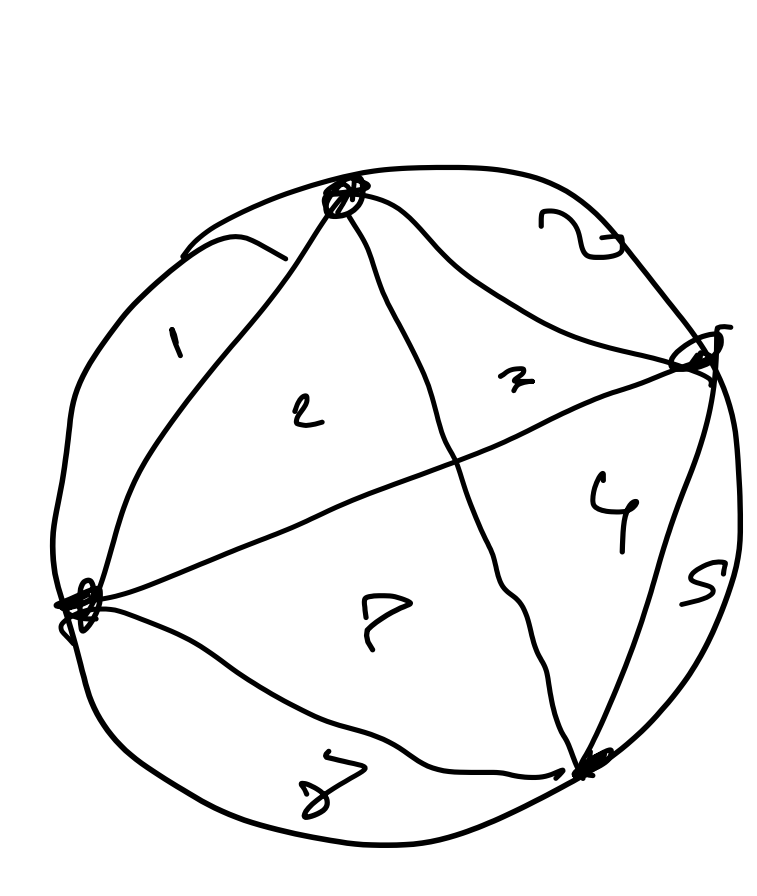
1 point
1 reg.



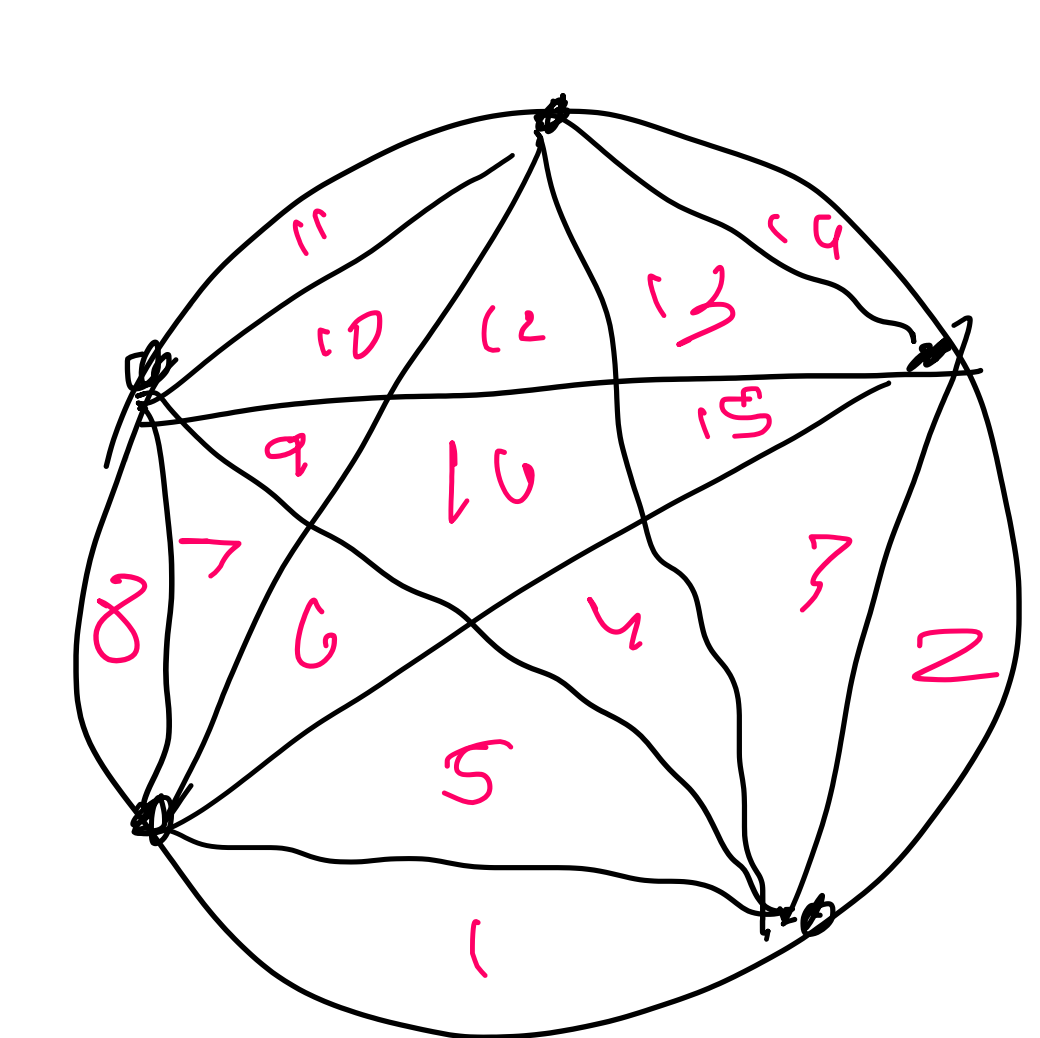
2 pts
2 reg.
 2^1



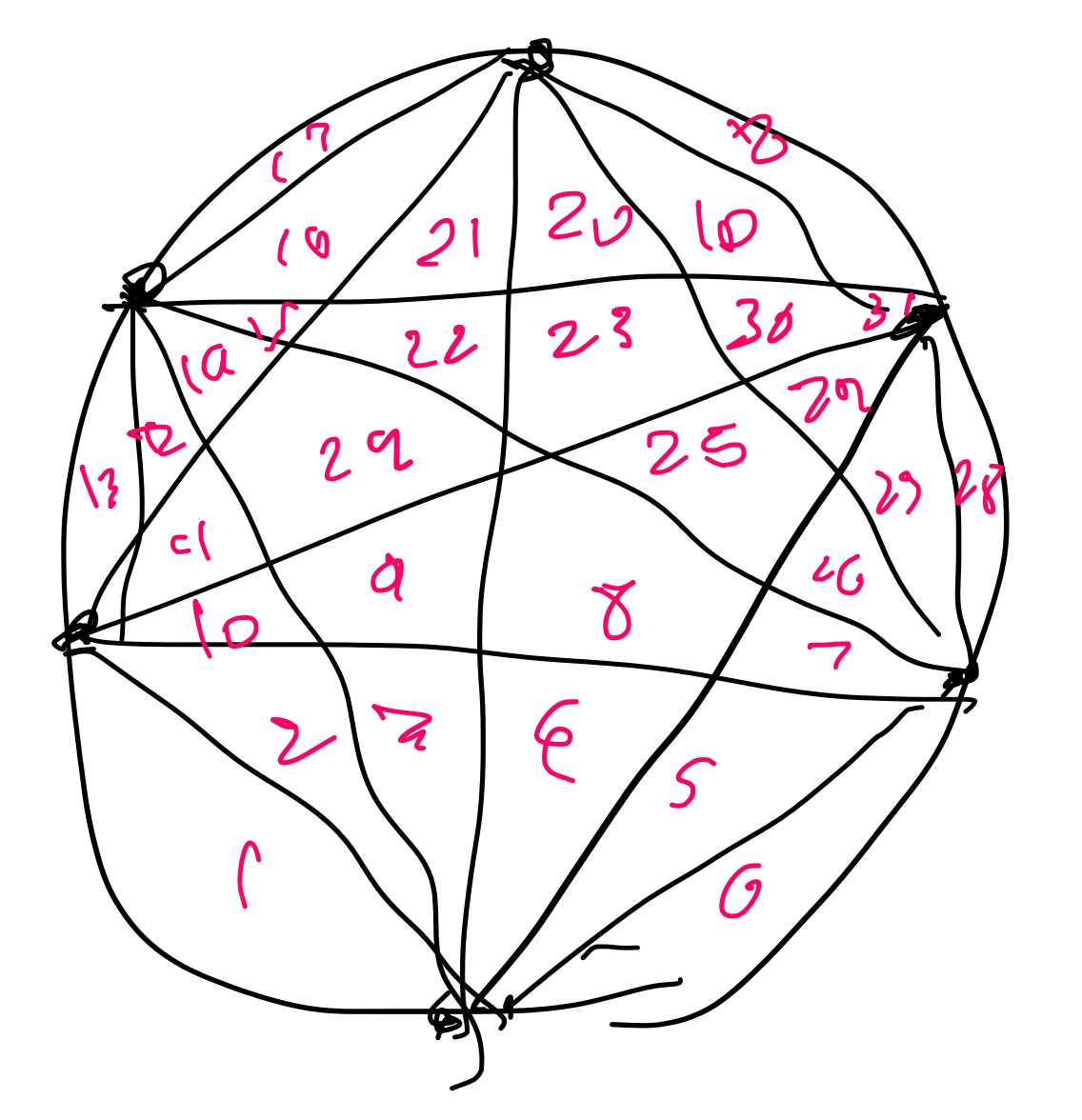
3 pts
4 reg.
 2^2



4 pts.
8 reg.
 2^3



5 pts.
 2^4



6 pts
 ~~$2^5 = 32$~~
31

If I remove two squares - two black, two white - from an 8x8 chessboard, must the result have a perfect cover?