The rules:
This is a multiple choice quiz. You must circle only correct answers with an ink pen. Every correct answer is scored positively, every false answer negatively. You are allowed to use only this paper and pen/pencil. No calculators. No books, no notebooks, no web access. You MUST write your name, UCLA Id number and section number.

Points: (10 per correct answer)
Question 1. Catalan number $C_n$ is the number of triangulations of a $k$-gon, where $k =$

$n - 2 \quad n - 1 \quad n \quad n + 1 \quad n + 2 \quad$ none of these

Question 2. Catalan number $C_n$ is equal to the following formula:

\[
\frac{1}{n - 1} \binom{2n}{n} \quad \frac{1}{n} \binom{2n}{n} \quad \frac{1}{n + 1} \binom{2n}{n} \quad \frac{1}{2n + 1} \binom{2n + 1}{n} \quad \binom{2n}{n} - \binom{2n}{n + 1}
\]

Important: circle all that apply!

Question 3. We proved in class that the number of grid walks $(0, 0) \rightarrow (n, n)$ on or above the diagonal is equal to $C_n$. We used the following method:

induction contradiction computation reflection meditation

Question 4. Which of the following graphs has exactly 6 edges:

$P_7 \quad P_6 \quad C_7 \quad C_6 \quad K_5 \quad K_4 \quad K_{2,2} \quad K_{2,3}$

Important: circle all that apply!

Question 5. Graph isomorphism is a relation with the following properties:

reflexive symmetric transitive equivalence

Important: circle all that apply!