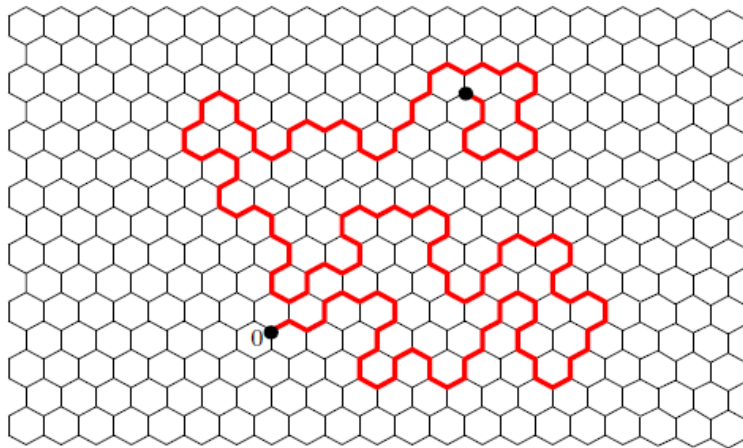


How many simple (= non-self-intersecting) lattice path of length n , starting at a fixed point o , are there?



The answer, about $\sqrt{2+\sqrt{2}}^n$, was conjectured by physicist Nienhuis and recently proved by Duminil-Copin and Smirnov. The proof will be discussed in the first week and hints at the deep role conformal invariance plays in lattice processes.