

# What is Moonshine?

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**Abstract:** In mathematics, the term “moonshine” indicates a surprising connection between distinct areas of mathematics. The term originated in the late 70s concerning connections between the Monster sporadic simple group and the set of genus 0 function fields on the upper half plane.

In this lecture, we briefly list about half a dozen moonshine phenomena, involving finite simple groups, number theory and Lie theory. I will describe a few points in detail.

An “explanation” of a moonshine phenomena would probably be some kind of mathematical context where all aspects of the phenomenon are visible and understandable. After three decades, there is hardly anything which qualifies as real explanations.

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