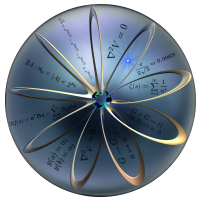

planetmath.org

Math for the people, by the people.

Landau-Ramanujan Constant

Canonical name	LandauRamanujanConstant
Date of creation	2014-03-06 12:39:16
Last modified on	2014-03-06 12:39:16
Owner	Filipe (28191)
Last modified by	Filipe (28191)
Numerical id	2
Author	Filipe (28191)
Entry type	Definition

Let N be a natural number. Consider the equation

$$x^2 + y^2 = N$$

Let $L(N)$ denote the number of naturals $z \leq N$ such that the equation $x^2 + y^2 = z$ has at least one integer solution (x, y). The Laudau-Ramanujan constant is defined as the limit

$$\lim_{N \to \infty} \frac{L(N)\sqrt{\log(N)}}{N} \approx 0.764223653589220662990698731 25$$