

The word "**Squircle**" was coined by Peter Panholzer in the summer of 1966 in Toronto, Canada.

As an aspiring architect born and studying in Vienna, Austria, Peter had spent four consecutive summers (1963-66) working for architects in Toronto. While working for architect **Gerald Robinson** in the summer of 1966, Peter got involved with designing a master plan for a new city centre of Peterborough, Ontario. In 1965 Gerald had read an article in the Scientific American <https://www.piethein.com/page/superellipse-24/> about Piet Hein's use of the Superellipse in an urban design project for Stockholm. Gerald asked Peter to explore the possibility of using **Piet Hein's Superellipse** for the Peterborough project.

The mathematical equation of the Superellipse was not invented by Piet Hein, but by Gabriel Lamé. https://en.wikipedia.org/wiki/Gabriel_Lam%C3%A9

According to Gabriel Lamé in 1818, the Superellipse follows the modified formula for the ellipse, $(x/a)^n + (y/b)^n = 1$, where the power of 2 is increased to a higher number. Piet Hein used an arbitrary relatively low exponent **n** of 2.6 for his urban design pattern. Peter asked himself, why should one be eyeballing the resulting shape for aesthetic or practical effect. Simplifying the problem he settled on the special case of a circle instead of an ellipse (*which Piet Hein also did and dubbed a **Supercircle***). The circle is defined by the formula $x^2 + y^2 = 1$, a special case of the more general formula $|x|^n + |y|^n = 1$, where **n** may rise from 2 to any higher number.

- Already in the summer of 1966, Peter named any resulting **Supercircle** a "**Squircle**" (a portmanteau of circle and square). <http://www.geocities.ws/dougclark/index-2.html#five>

As **n** converges to infinity ∞ , the circle converges to a square. In order to find the aesthetic middle between a circle and a square, Peter posed the question: at which **ideal n** in the formula $|x|^n + |y|^n = 1$ does the resulting **Squircle** reach a stage such that one **cannot decide**, if the resulting "**ideal**" **Squircle** is visually closer to a **circle or a square**.

<http://mathforum.org/kb/message.jspa?messageID=1076623>

Initially, Peter used a pragmatic approach and traced 20 **Squircles** with **n** rising from 2.1 to 4.1 (whereas 2.1 is clearly closer to a circle and 4.1 is clearly closer to a square). He then engaged a dozen friends to proceed with inspecting and judging the 20 **Squircles** which were laid out near the edge of a long table in the office. Their opinion as to the undecidable shape averaged at 3.1, very close to the number Pi (a vain hope, as it turned out later).

Peter Panholzer's authorship of the word "**Squircle**" was not referenced on the Internet until many years later:

<http://www.geocities.ws/dougclark/index-2.html#five> and

<https://darmamade.wordpress.com/2006/07/06/research-on-squircle/>

Peter's authorship of the term "**Squircle**" in the summer of 1966 has been confirmed in writing by his employer, **architect Gerald Robinson**, who lives and works in Toronto, Canada.

<http://geraldrobinson.ca/>

Peter Panholzer wrote:

Gerald is a living witness of the events in the summer of 1966 and my invention of the word "Squircle".

*In attempting to find the "ideal" value of **n** in the formula for the **Squircle** $|x|^n + |y|^n = 1$, such that one **cannot decide**, if the resulting "**ideal**" **Squircle** is visually closer to a **circle or a square**, e.g. a quest of the **Super-Squircle**, I realised this was a challenging aesthetic problem and decided to look for a solution with the help of computers. The first computer used for this purpose was at the Toronto offices of Hewlett Packard where my brother-in law Hans Thurow worked – with the help of Hollerith punch cards (!) to enter data, and early HP Basic programming. This was in 1966, and my quest continued ever since.*

Current references (only two among many others): <https://en.wikipedia.org/wiki/Squircle>

<http://mathworld.wolfram.com/Squircle.html>