# Srinivasa Ramanujan Aiyangar

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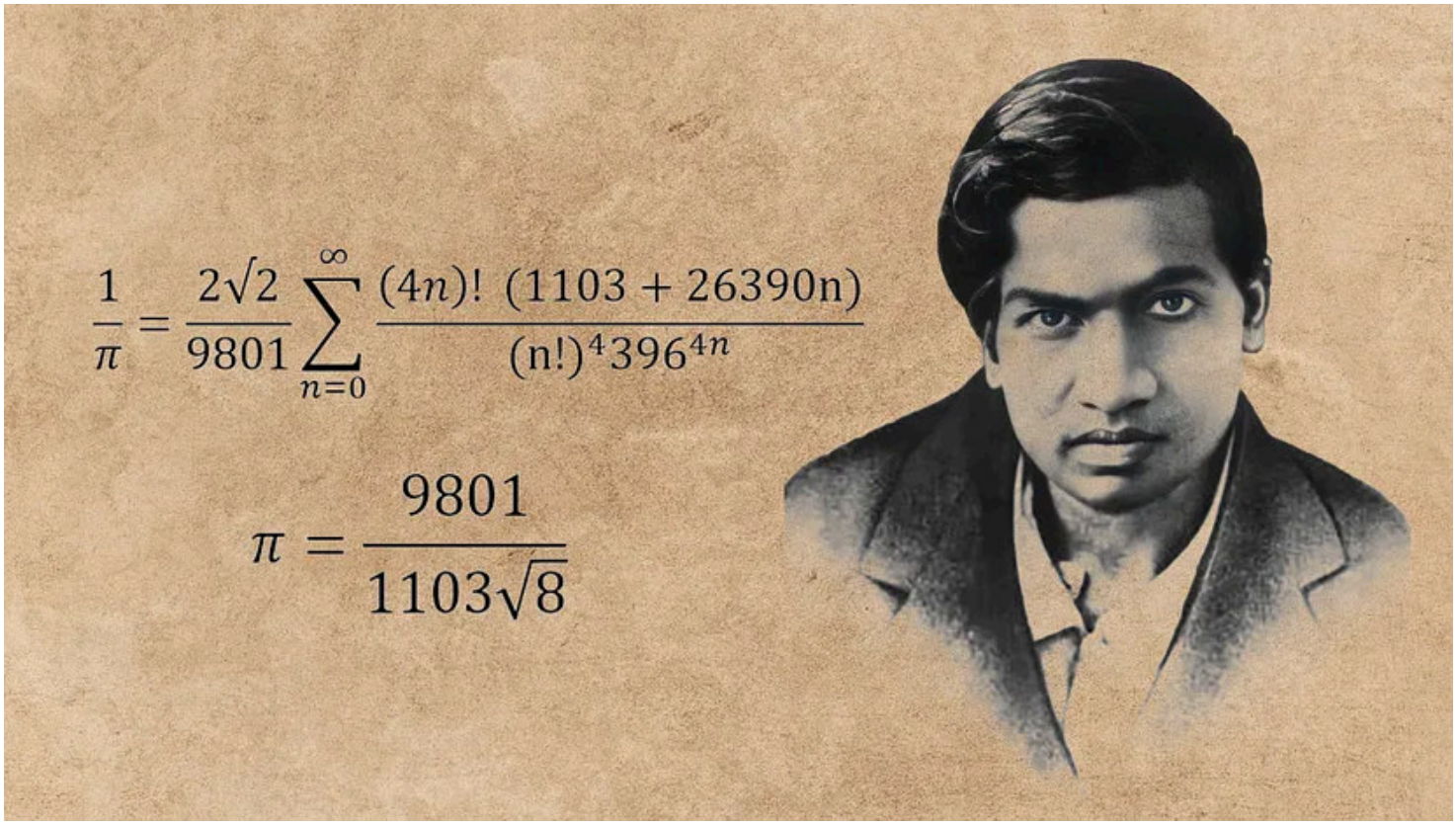


Srinivasa Ramanujan Aiyangar[a] (22 December 1887 – 26 April 1920) was an Indian mathematician. Though he had almost no formal training in pure mathematics, he made substantial contributions to mathematical analysis, number theory, infinite series, and continued fractions, including solutions to mathematical problems then considered unsolvable. Often regarded as one of the greatest mathematicians of all time, Ramanujan initially developed his own mathematical research in isolation. According to Hans Eysenck, "he tried to interest the leading professional mathematicians in his work, but failed for the most part.

## Early Life

Ramanujan (literally, "younger brother of Rama", a Hindu deity)was born on 22 December 1887 into a Tamil Brahmin Iyengar family in Erode, in present-day Tamil Nadu.His father, Kuppuswamy Srinivasa Iyengar, originally from Thanjavur district, worked as a clerk in a sari shop.His mother, Komalatammal, was a housewife and sang at a local temple. They lived in a small traditional home on Sarangapani Sannidhi Street in the town of Kumbakonam.The family home is now a museum. When Ramanujan was a year and a half old, his mother gave birth to a son, Sadagopan, who died less than three months later. In December 1889, Ramanujan contracted smallpox, but recovered, unlike the 4,000 others who died in a bad year in the Thanjavur district around this time. He moved with his mother to her parents' house in Kanchipuram, near Madras (now Chennai). His mother gave birth to two more children, in 1891 and 1894, both of whom died before their first birthdays.[12] On 1 October 1892, Ramanujan was enrolled at the local school.After his maternal grandfather lost his job as a court official in Kanchipuram,Ramanujan and his mother moved back to Kumbakonam, and he was enrolled in Kangayan Primary School.When his paternal grandfather died, he was sent back to his maternal grandparents, then living in Madras.

## Personality and spiritual life

Ramanujan has been described as a person of a somewhat shy and quiet disposition, a dignified man with pleasant manners.He lived a simple life at Cambridge.Ramanujan's first Indian biographers describe him as a rigorously orthodox Hindu. He credited his acumen to his family goddess, Namagiri Thayar (Goddess Mahalakshmi) of Namakkal. He looked to her for inspiration in his work and said he dreamed of blood drops that symbolised her consort, Narasimha. Later he had visions of scrolls of complex mathematical content unfolding before his eyes.He often said, "An equation for me has no meaning unless it expresses a thought of God."

## Mathematical Achievements

In mathematics, there is a distinction between insight and formulating or working through a proof. Ramanujan proposed an abundance of formulae that could be investigated later in depth. G. H. Hardy said that Ramanujan's discoveries are unusually rich and that there is often more to them than initially meets the eye. As a byproduct of his work, new directions of research were opened up. Examples of the most intriguing of these formulae include infinite series for π, one of which is given below: $1/\pi = 2\,2\,9801 \sum k = 0\,\infty\,(4k)!\,(1103 + 26390k)\,(k!)\,4\,396\,4k$ . This result is based on the negative fundamental discriminant $d = -4 \times 58 = -232$ with class number $h(d) = 2$. Further, $26390 = 5 \times 7 \times 13 \times 58$ and $16 \times 9801 = 3962$, which is related to the fact that $e\,\pi\,58 = 396\,4 - 104.000000177 \ldots$ .

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If you have time, you should read more about this incredible human being on his Wikipedia entry.