

# Black history month: Srinavasa Ramanujan



**Srinavasa Ramanujan grew up in a poor family in India, near Madras, and learned most of his maths from an old textbook he picked up in at random. Because he paid little attention to other school subjects, he was unable to get into university.**

**He wrote to mathematicians in England, and in 1913 G H Hardy, maths professor at Cambridge, arranged for Ramanujan to come to Cambridge with a scholarship and then a job.**

**Hardy and Ramanujan together made many advances in the theory of the counting numbers, 1, 2, 3, 4..... Ramanujan fell ill and died in 1920. He left notebooks full of work – mostly conjectures without full proofs – which mathematicians continued to study for decades afterwards.**

**More: <https://mathsmartinthomas.wordpress.com/2016/04/24/the-man-who-knew-infinity/>**

**On one visit when Srinivasa Ramanujan was ill in hospital, Hardy mentioned that the taxi he'd come in had the number 1729. But, thought Hardy, that wasn't a very interesting number.**

**Little did he know. The desperately ill man's face lit up. "No, no", he said. "It is a very interesting number; it is the smallest number which can be written as the sum of two cubes in two different ways."**

**So it is.  $1^3+12^3=10^3+9^3=1729$ .**

**What is the smallest number which can be written as the sum of squares in two different ways? What is the smallest number which can be written as the sum of non-zero squares in two different ways?**