

THE GREAT INDIAN MATHEMATICIAN – SHAKUNTALA DEVI

#TheGreatIndianMathematician #KnowAboutIndianBrains

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Shakuntala Devi – Popularly known as ‘Human computer’ of India – earned her place in the Guinness Book of World Records in 1982. She was the author of many books, including novels as well as texts about mathematics, puzzles, and astrology.

- ❖ **Biopic** : ‘Shakuntala Devi’
- ❖ **Birth Year** : 1929
- ❖ **Birth Place** : Bangalore, Karnataka, India
- ❖ **Birth anniversary** : November 4
- ❖ **Death anniversary** : April 21 (2013)
- ❖ **Known as** : Human Computer of India



The Great Indian Mathematician –
Shakuntala Devi

Shakuntala was born in an orthodox Kannada Brahmin family. Her father was expected to become a temple priest but he rebelled and chose to work in the circus. He worked as a trapeze artist, lion tamer, tightrope walker and magician. One day, Her father was showing her a card trick. While doing so, he discovered, preschool-aged his daughter effortlessly memorized an entire shuffled deck of cards. At this time she was just three years old!

Her father left the circus and started the road-shows where he showcased her amazing talent! All these she could do without any formal education. Unbelievable! At the age of six, she demonstrated her arithmetic abilities at the University of Mysore. In 1944, Devi moved to London with her father. She travelled to various countries demonstrating her arithmetic talents.

In 1988, she travelled to the US to have her abilities studied by Arthur Jensen, a professor of psychology at the University of California, Berkeley. Jensen tested her performance of several tasks, including the calculation of large numbers. Examples of the problems presented to Devi included calculating the cube root of 61,629,875 and the seventh root of 170,859,375. Jensen reported that Devi provided the solution to the above-mentioned problems (395 and 15, respectively) before Jensen could copy them down in his notebook. Jensen published his findings in the academic journal *Intelligence* in 1990.

In 1977, at Southern Methodist University, she gave the 23rd root of a 201-digit number in 50 seconds. Her answer—546,372,891—was confirmed by calculations done at the US Bureau of Standards by the UNIVAC 1101 computer, for which a special program had to be written to perform such a large calculation. Shakuntala hailed from a poor background. Her father was a circus artiste who could not even afford her school fee of

Rs 2. Despite all hurdles and hardships, Shakuntala Devi made India proud by displaying her mental skills in calculating complex mathematical problems within seconds.

What were her skills?

Multiplication of large numbers: This skill helped her to fetch the Guinness Book of Records in 1982. At Imperial College on June 18, 1980, she was asked to multiply two 13-digit numbers given as below:

$7,686,369,774,870 \times 2,465,099,745,779.$

She got the answer in 28 seconds — 18,947,668,177,995,426,462,773,730.

Hang on! She was faster than the computer!

Calculations related to Calendars:

She was amazingly clear about her concepts related to days and dates in the calendar of any decade or century. For an example, if you ask the day of the week on 14th January, 1946, she would have immediately replied you 'Monday'. Her response time in calculating questions related 'calendars' was just 1 second! Her answers came about as fast as one could start the stopwatch. She used the techniques of Vedic Mathematics!

Roots: Her ability to find roots were simply amazing. In 1988, at the University of California-Berkeley, Shakuntala Devi was tested for her ability to calculate the cube roots. The test was conducted by the psychologist Arthur Jensen.

She was asked the cube-root of 95,443,993. She gave the answer 457 in just 2 seconds. She was asked cube-root of 204,336,469 to which she answered 589 in just 5 seconds, and gave the cube root of the number 2,373,927,704 (answer 1334) in 10 seconds.

Not only in square-roots or cube-roots, she was quite quick and confident in calculating higher and difficult roots. For an example - She calculated the 7th root of 455,762,531,836,562,695,930,666,032,734,375 in 40 seconds. The answer to which is 46,295. This means if we multiply 46295 with itself for seven times, we get the given 27-digit number. She did backward integration from the 7th power to derive the root. She stunned everybody from her such a master performance.

Awards won by Shakuntala Devi:

- ❖ Distinguished Woman of the year award (1969) by university of Philippines
- ❖ Ramanujan's Mathematical Genius Award (1988) by Indian Ambassador to US
- ❖ Guianese Book of World Records (1995)
- ❖ Life-time Achievement Award (2013) in Mumbai

Watch the video about SHAKUNTALADEVI by clicking on the following link: <https://youtu.be/MbHTSCcHRI4>

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