

I am a **0**.

&

God is **'1'**.

When I get aligned to Him,
in the right fashion;

I become a complete **'10'**.

This is my mathematics, to be
more precise my Arithmetic of life.

1 2 3 4 5 6 7 8 9 10 +
x



Shakuntala Devi (1929-2013) was best known as “the human computer” for her ability to perform lengthy calculations in her head, swiftly. One example of this, described in her New York Times obituary, took place in 1977, at Southern Methodist University in Dallas, where she extracted the 23rd root of a 201-digit number in 50 seconds. It took a Univac computer 62 seconds to do the same.

A Genius from the age of three, a motivational speaker, a good writer, a living wonder, an internationally acclaimed mathematician SHAKUNTALA DEVI, an inspiration for many.

Shakuntala Devi has spelled bound and challenged the world with her unique talents.

Born in a well-known family of Brahmin priests in Bangalore, Shakuntala Devi received her early lessons in mathematics from her grandfather.

Shakuntala Devi

By the age of five she was recognized as a child prodigy and an expert in complex mental arithmetic. A year later she demonstrated her talents to a large assembly of students and professors at the University of Mysore.

Hailed as an authentic heroine of our times her feats are recorded in the Guinness Book of World Records. She has made international headlines for out-performing and out-computing the most sophisticated computers in the world.

Yet, Shakuntala Devi dislikes being called the ‘human computer’. She strongly believes that people have minds better than any computer. Her passionate interest in exploring and expanding the learning capacity of the human mind led her to develop the concept of ‘mind dynamics’.

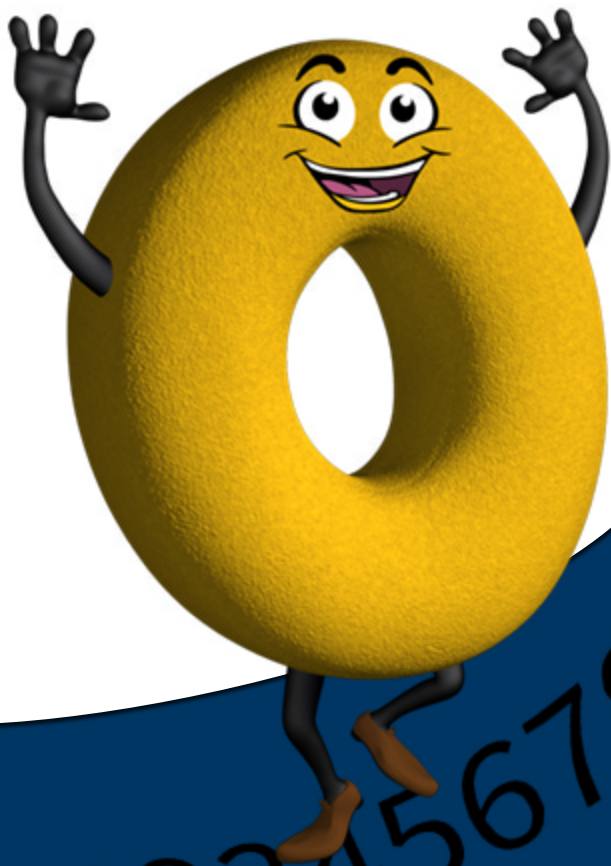
Her love for numbers has taken her to places. She has been traveling around the globe performing for the student community, Presidents, Politicians, Prime Ministers and Educationalists. She has not just stopped on exhibiting her expertise but also motivating the young minds to discover the world of mathematics.

She maintains that a child’s curiosity and receptivity during infancy and childhood can never be matched, and we must nurture the young minds by offering the right learning process and motivation to develop the innate strengths possessed by every child.

She has authored many books especially the world famous Figuring: the Joy of Numbers where she shares some of the methods of mental calculations. Puzzles to puzzle you, More Puzzles to Puzzle you, The Book of Numbers, Mathability: The Math Genius in Your Child, Astrology for you, Perfect Murder, In the Wonderland of Numbers and Awaken the Genius in Your Child are some of the books authored by her.

Shakuntala Devi Number

Shakuntala Devi attained universal fame when she demonstrated her ability to multiply two random numbers of 13 digits. She could mentally multiply $7,686,369,774,870 \times 2,465,099,745,779$ on 18 June 1980 and gave the correct answer as $18,947,668,177,995,426,462,773,730$ within just 28 seconds.



Zero & Indian mathematics

Zero was fully developed in India around fifth century AD. Zero became an important part of the number system in India. Even in the past mathematical equations were chanted in poetry. Words meaning void, sky, space represent nothingness or zero.

Pingala an Indian scholar used binary numbers and he was the first who used 'shunya' for zero as a Sanskrit word.

Brahmagupta a scholar and mathematician in AD 628 first time defined zero and its operation and developed a symbol for it which is a dot underneath the numbers. He had also written rules for mathematical operations like addition and subtraction using zero.

Aryabhata a great mathematician and an astronomer used zero in the decimal system.

It was a huge conceptual leap to see that zero is a number in its own right. Once this leap had been made, mathematics and science could make progress that would otherwise have been impossible.

Amazing truth

Letters 'a', 'b', 'c' & 'd' do not appear anywhere in the spellings of 1 to 99

(Letter 'd' comes for the first time in Hundred)

Letters 'a', 'b' & 'c' do not appear anywhere in the spellings of 1 to 999

(letter 'a' comes for the first time in Thousand)

Letters 'b' & 'c' do not appear anywhere in the spellings of 1 to 999,999,999

(Letter 'b' comes for the first time in Billion)
And

Letter 'c' does not appear anywhere in the spellings of entire English Counting



Significance Of Number 108 in Hindu Mythology

As per Indian mythology, Indian culture has a very special significance of number 108.

1

In one minute, we breathe in approximately 15 times, in 1 hour 900 times, and in 12 hours 10,800 times, and in a day $10800 * 2$ times.

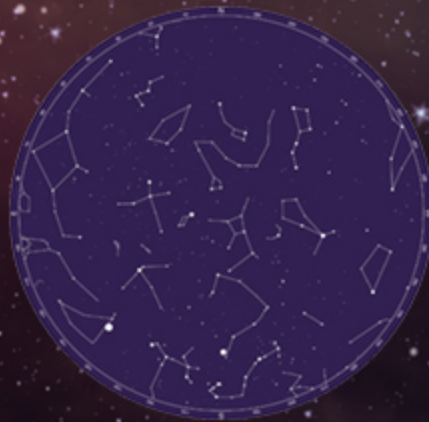
A day consists of 24 hours, and if we set aside half the day for our day to day routines, then one can spend 12 hours for recitation of one's idol.

Therefore, the maximum number of times that one can recite "mantra", or perform "japa" is 10,800.

If one wants to obtain 100% benefit of its japa, then performing 108 japa will give you the benefit of 100%.

That's why in a "Mala", there are 108 beads.

It is written in the Vedas, that one japa corresponds to one mala (which has 108 beads), therefore performing japa of 108 malas will result in 100% benefit.



2

Astronomically, there are 27 constellations in our galaxy, and each one of them has 4 directions, and $27 * 4 = 108$, in other words the number 108 covers the whole galaxy.

3

According to Indian scriptures, letter 9 corresponds to Lord Brahma (the creator of universe).

Mathematically, the interesting property of 9 is:

$$9 \times 1 = 9$$

$$9 \times 2 = 18 (8+1=9)$$

$$9 * 3 = 27 (7+2=9)$$

$$9 * 12 = 108 (1+0+8=9).$$

4

According to Indian mythology, there are 4 Yugs:

Satyug - consists of 172,800 years
($1+7+2+8 = 18 = (1+8 = 9)$).

TretaYug consists of 12,96,000 years
($1+2+9+6 = 18 = (1+8 = 9)$).

DwaparYug consists of 8,64,000 years
($8+4+6 = 18 = (1+8 = 9)$).

Kaliyug consists of 4,32,000 years ($4+3+2 = 9$).

Harshad number: 108 is a Harshad number, which is an integer divisible by the sum of its digits (Harshad is from Sanskrit, and means "great joy").

Dance: There are 108 forms of dance in the Indian traditions.

Goddess names: There are said to be 108 Indian Goddess names.

Time: Some say there are 108 feelings, with 36 related to the past, 36 related to the present, and 36 related to the future.

Gopis of Krishna: In the Krishna tradition, there were said to be 108 Gopi's or maid servants of Krishna.

1, 0, and 8: Some say that 1 stands for God or higher Truth, 0 stands for emptiness or completeness in spiritual practice, and 8 stands for infinity or eternity.

Sun and Earth: The diameter of the Sun is 108 times the diameter of the Earth. The distance from the Sun to the Earth is 108 times the diameter of the Sun.

Moon and Earth: The average distance of the Moon from the Earth is 108 times the diameter of the Moon.

Silver and the Moon: In Astrology, the metal silver is said to represent the Moon. The atomic weight of silver is 108.

Numerical scale: The 1 of 108, and the 8 of 108, when added together equals 9, which is the number of the numerical scale, i.e. 1, 2, 3 ... 10, etc., where 0 is not a number.

Meditations: Some say there are 108 styles of meditation.

Stages of the soul: It's said that the Atma, the human soul or center goes through 108 stages on the journey.

Indian Maths prodigy Neelakantha Bhanu becomes the fastest human calculator in the world.



Neelakantha Bhanu Prakash

Neelakantha Bhanu Prakash is a graduate in Maths from St Stephen College, Delhi and won the first-ever gold for India in the Mental Calculation World Championship at Mind Sports Olympiad in London earlier this month. He fought with 30 participants from 13 countries including UK, Germany, UAE, France, Greece, Lebanon, etc, and won first place in his very first attempt.

A mathematical whiz kid from his early childhood, since 5 years of age, when he enrolled himself for the SIP Abacus program. He has won several titles, and broken many records. He has 4 world records and 50 Limca Book of Records.

Math Jokes



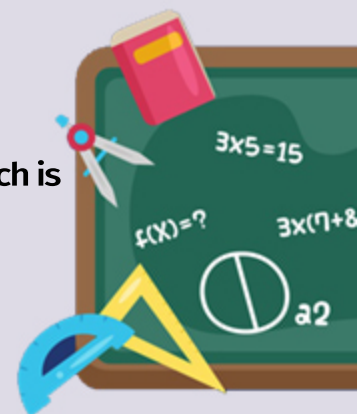
1. Why do plants hate math?
Answer= It gives them square roots.
2. Why is the obtuse triangle always so frustrated?
Answer= Because it is never right.
3. What's the best place to do math homework?
Answer = On a multiplication table.
4. Why did the student feel like life was pointless?
Answer=Because she didn't take Geometry yet!

Math riddles

1. If you buy a rooster for the purpose of laying eggs and you expect to get three eggs each day for breakfast, how many eggs will you have after three weeks?
2. X is an odd number. Take an alphabet away from X and it becomes even. Which is that number?
3. How can you take 2 from 5 and leave 4?

Answers :

1. Zero, roosters do not lay eggs
2. Seven (Seven-S=Even)
3. F I V E.....Remove the 2 letters F and E from five and you have IV.



Contributed by: Anjali Ajith Thomas (D/o Sheen Ajith Thomas)



India's contribution to Mathematics

The number system

The number system used today is a contribution from India. As far back as 1200 BC, mathematical knowledge was being written down as part of a large body of knowledge known as the Vedas. In these texts, numbers were commonly expressed as combinations of powers of ten. For example, 365 might be expressed as three hundreds (3×10^2), six tens (6×10^1) and five units (5×10^0).

Rules for negative numbers

Indian mathematician Brahmagupta demonstrated rules for working with negative numbers. He referred to positive numbers as fortunes and negative numbers as debts. He wrote down rules that have been interpreted by translators as: "A fortune subtracted from zero is a debt," and "a debt subtracted from zero is a fortune".

This latter statement is the same as the rule we learn in school, that if you subtract a negative number, it is the same as adding a positive number. Brahmagupta also knew that "The product of a debt and a fortune is a debt" – a positive number multiplied by a negative is a negative.

Solutions of quadratic equations

In the seventh century, the first written evidence of the rules for working with zero were formalised in the Brahmasputha Siddhanta. In his seminal text, the astronomer Brahmagupta introduced rules for solving quadratic equations (so beloved of secondary school mathematics students) and for computing square roots.

The concept of zero

India introduced the concept of zero to the world. The advent of the concept of zero allowed numbers to be written efficiently and reliably. In turn, this allowed for effective record-keeping that meant important financial calculations could be checked retroactively, ensuring the honest actions of all involved. Zero was a significant step on the route to the democratisation of mathematics.

Basis for calculus

The "Kerala school," a little-known group of scholars and mathematicians in fourteenth century India, identified the "infinite series" one of the basic components of calculus around 1350, more than 350 years before it was discovered in the West.

Ancestral Mathematics

In order to be born, you needed:

2 parents
4 grandparents
8 great-grandparents
16 second great-grandparents
32 third great-grandparents
64 fourth great-grandparents
128 fifth great-grandparents
256 sixth great-grandparents
512 seventh great-grandparents
1,024 eighth great-grandparents
2,048 ninth great-grandparents

For you to be born today from 12 previous generations, you need a total of 4,094 ancestors over the last 400 years.

Think for a moment - How many struggles? How many battles? How many difficulties? How much sadness? How much happiness? How many love stories? How many expressions of hope for the future? - did your ancestors have to undergo for you to exist in this present moment...



Interesting and amazing facts about Mathematics.

1. Zero (0) is the only number which can not be represented by Roman numerals.
2. What comes after a million, billion and trillion? A quadrillion, quintillion, sextillion, septillion, octillion, nonillion, decillion and undecillion.
3. Plus (+) and Minus (-) sign symbols were used as early as 1489 A.D
4. 2 and 5 are the only primes that end in 2 or 5
5. An icosagon is a shape with 20 sides
6. Among all shapes with the same perimeter a circle has the largest area.



7. Among all shapes with the same area circle has the shortest perimeter
8. 40 when written "forty" is the only number with letters in alphabetical order, while "one" is the only one with letters in reverse order
9. 'FOUR' is the only number in the English language that is spelt with the same number of letters as the number itself
10. Have you ever noticed that the opposite sides a die always add up to seven (7)
11. Here is an interesting trick to check divisibility of any number by number 3. A number is divisible by three if the sum of its digits is divisible by three (3)
12. Do you know the magic of no. nine (9)? Multiply any number with nine (9) and then sum all individual digits of the result (product) to make it single digit, the sum of all these individual digits would always be nine (9).
13. A 'jiffy' is an actual unit of time for 1/100th of a second
14. Have you heard about Fibonacci? It is the sequence of numbers wherein a number is the result of adding the two numbers before it! Here is an example: 1, 1, 2, 3, 5, 8, 13, 21, 34, and so on

*Beauty
of
MATH*

$$\frac{111}{1+1+1} = 37$$

$$\frac{222}{2+2+2} = 37$$

$$\frac{333}{3+3+3} = 37$$

$$\frac{444}{4+4+4} = 37$$

$$\frac{555}{5+5+5} = 37$$

$$\frac{666}{6+6+6} = 37$$

$$\frac{777}{7+7+7} = 37$$

$$\frac{888}{8+8+8} = 37$$

$$\frac{999}{9+9+9} = 37$$

Indian Mathematicians and their Contributions



RAMANUJAN

- . He was born On 22nd of December 1887 in a small village of Tanjore district, Madras. He failed in English in Intermediate, so his formal studies were stopped but his self-study of mathematics continued.
- . He sent a set of 120 theorems to Professor Hardy of Cambridge. As a result he invited Ramanujan to England.
- . Ramanujan showed that any big number can be written as sum of not more than four prime numbers.
- . He showed that how to divide the number into two or more squares or cubes.
- . When Mr. Littlewood came to see Ramanujan in taxi number 1729, Ramanujan said that 1729 is the smallest number which can be written in the form of sum of cubes of two numbers in two ways, i.e. $1729=9^3+ 10^3=1^3+ 12^3$ since then the number 1729 is called Ramanujan's number.
- . In the third century B.C, Archimedes noted that the ratio of circumference of a circle to its diameter is constant. The ratio is now called 'pi (π)' (the 16th letter in the Greek alphabet series)
- . The largest numbers the Greeks and the Romans used were 106 whereas Hindus used numbers as big as 10^{53} with specific names as early as 5000 B.C, the vedic period.



ARYABHATA

- . Aryabhata was born in 476A.D in Kusumpur, India.
- . He was the first person to say that Earth is spherical and it revolves around the sun.
- . He gave the formula $(a + b)^2 = a^2 + b^2 + 2ab$



BRAHMAGUPTA

- . Brahma Gupta was born in 598A.D in Pakisthan
- . He gave four methods of multiplication.
- . He gave the following formula, used in G.P series
 $a + ar + ar^2 + ar^3 + \dots + ar^{n-1} = (ar^n - a) \div (r - 1)$
- . He gave the following formulae :
 Area of cyclic quadrilateral with side a, b, c, d = $\sqrt{(s - a)(s - b)(s - c)(s - d)}$
 where $2s = a + b + c + d$ Length of its diagonals =



BHASKARACHARYA

- . He was born in a village of Mysore district.
- . He was the first to give that any number divided by 0 give infinity (∞).
- . He has written a lot about zero, surds, permutation and combination.
- . He wrote, "The hundredth part of the circumference of a circle seems to be straight. Our earth is a big sphere and that's why it appears to be flat."
- . He gave the formulae like $\sin(A \pm B) = \sin A \cdot \cos B \pm \cos A \cdot \sin B$

CELEBRATIONS

MUMBAI



AHMEDABAD



BIRTHDAY BOYS/GIRLS

A. M. Murali	Bangalore	01st September
Suryaji P Desai	Mumbai	07th September
Binu Jose	Kochi	09th September
Sanjoy Kumar Bose	Kolkatta	09th September
Smita S. Pillai	Corporate	10th September
Saravana Kumar	Tuticorin	11th September
Minal Chavan	Mumbai	12th September
S. Saravanan	Chennai	12th September
Priti R Gupta	Mumbai	14th September
Pankaj M Vaghela	Ahmedabad	15th September
M. G. Satheesha	Bangalore	18th September
Subburaj Chettiar	Mumbai	18th September
Narendra Waigankar	Mumbai	20th September
Nikhil Jain	Corporate	21th September
Indravadan Mesariya	Baroda	27th September

THEY TIED THE KNOT

Subburaj Chettiar	Mumbai	02nd September
Essakkiappan P.	Tuticorin	09th September

NEW JOINEES

Arati Pawar	Corporate
Mehul Gupta	Corporate
Nehal Makwana	Corporate
Sanjana Tupe	Corporate
Tushar Ghume	Corporate
Nirav Mehta	Hazira
Anish Menon	Mumbai
Arun V M	Mumbai
Durgesh Jha	Mumbai
Gildon D'souza	Mumbai
Siddharth Solanki	Mumbai
Vidhyesh Salaskar	Mumbai

