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## NO MORE SUPER-COMPUTERS TO COMPUTE Pi

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### ABSTRACT
The official Pi value 3.14159265358… is proved now an approximate value not from its last decimal place but an approximate value from its very third decimal place onwards. The real Pi value is 3.14644660941…. A simplest formula is revealed by the Nature to derive the true Pi value and is 14 sides of the square minus its diagonal which gives four times of the circumference of this squarer's inscribed circle.

**KEYWORDS**— Circle, circumference, diameter, diagonal, side, square.

## INTRODUCTION
Here is a simple but world-shaking revelation on the exact value of Pi in Mathematics. Till now we have been using Super-computers in the computation of Pi value spending many hours for many days to derive astronomical number of decimals to 3.14159265358… which is an accurate value up to its $2^{nd}$ decimal only. Unknowingly, it has been believed as accurate approximate till the last decimal place of 3.14159265358… This value has been in vogue for the last 2000 years. The Holy Bible has said Pi value is 3. The first mathematician who found a simple method to compute Pi value is Eudoxus of Cnidos (500 BC) Greece. From his method, Archimedes of Syracuse (240 BC) making more scientific and has said Pi is less than 22/7 = 3.142857142857… After further refinement by later mathematicians of Archimedes's method, the value of Pi came to be known, as 3.14159265358… which we follow even now.

However, from 1450 AD, Madhava of Kerala, India, a new method called infinite series was introduced from which thousands of decimals of Pi became possible. With the advent of Super Computers, Yasumasa Kanada of Department of Computer Science, Tokyo University, Japan has computed trillions of decimals of 3.14159265358… This number was also derived by many great mathematicians and are Sir Issac Newton, Leonhard Euler and S. Ramanujan, a few. It is very unfortunate their number now proved to be false.

In March 1998, the new Pi value was discovered and is (14 – root2)/4. A simple pocket calculator gives 3.14644660941… More than hundred geometrical methods confirm this value. It is an algebraic number. Whereas, the present Pi number is a transcendental number. Thank God ! Very recently a great mathematical truth is seen which gives a very simplest relation among side, diagonal of a square with circumference of its inscribed circle. The relation is : 14 sides – diagonal = 4 circumferences.

In other words 14a – (root2)a = 4 Pi a, where, side (a) is equal to the diameter (d) of its inscribed circle. From the above, Pi value can be derived very easily. A simple calculator is enough. There is no need for Super computers to compute Pi value of circle, as $\sqrt{2}$ (may be a symbol according to some. It is, that **square root** a symbol but **not** square root **two**) though irrational number yet it is an **exact value** $\left( \sqrt{2} \times \sqrt{2} = 2 \right)$ (for the **accurate approximate value** of 1.4142135623…). Yet another and interesting break-through here is, the inscribed circle demarcates a length equal to diagonal from the sides of the square. From Baudhayana (800 BC) of India and Pythagoras (450 BC) of Greece, it has been believed that a square alone can create a diagonal. But, now it is clear that an inscribed circle in a square too can demarcate a length equal to the diagonal of its superscribed square. This is yet another evidence that circle and square are one.

Let us explain the new formula $14a - \sqrt{2}a = 4\pi a$ or $14a - 4\pi a = \sqrt{2}a$

Straighten the 14 sides of the square. Rotate the inscribed circle of this square, on its 14 sides. **Turning should be exact**. Then only after 4 full turns of this circle, the length that remaining after 4 full circles, will be equal to **the diagonal** of the **same** square. **This is a great mathematical truth.** We are fortunate to see this truth after Baudhayana (800 BC) of India and Pythagoras (450 BC) of Greece, who have become famous with so called Pythagorean theorem. So, the **Nature** has revealed another truth to us, **after 2500 years.** Let us **Praise The Lord** of Creation. **It is a divine truth indeed. It does not require any proof.** It is a natural thing like water, air, light, fire, Earth, Sky etc.

Another well known mathematical truth is Pi constant. In the case of $\pi$, the number of diameters when arranged one after the other on the straightened circumference of the same circle, a small bit of length which remains after 3 diameters has become **very very very difficult** to measure it and hence it took thousands of years till March 1998 from the inception of human civilization. Archimedes has said this bit of length is equal to less than 1/7. He could not say in another way. At the same time he could not use either 1/6 = 0.16… or 1/8 = 0.125…. as both are **very extremes** to the actual value 0.14… of 3.14... Hence, he couldn't but choose 1/7 and he was **Right** from the existing situation of his time. Further in his days, no concept of 'decimal places' in the number system were known, in the European and Western countries. The number zero, however, was in vogue in the Indian mathematics. Due to communication gap the whole world could know zero, only a few centuries later. So, in the prevailing situation of Archimedes's days, he equated the remaining bit of circumference **after** 3 diameters to 1/7. He did say it was **less than** 1/7 and we should not forget that. Archimedes was perfect.

With the discovery of March 1998 Pi value, it is now very clear, that the meaning for less than 1/7 might be

$$\frac{1}{4 + 2\sqrt{2}} = \frac{1}{6.82842712474} = 0.14644660941\ldots$$ However, we have not been using "less than 1/7" but 1/7

itself, in all our calculations. So, to conclude, according to Archimedes's less than $3 + \frac{1}{7} = \frac{22}{7}$ should be

taken/interpreted/read as

$$3 + \frac{1}{4 + 2\sqrt{2}} = 3 + \frac{1}{6.82842712474} = \frac{14 - \sqrt{2}}{4} = 3.14644660941\ldots$$

Moreover, this 1/7 actually **represents polygon** and **not** the tail end of the circumference after 3 diameters. **No dispute on it**. It is an universally accepted fact.

If Archimedes were to resurrect from his tomb, he would definitely confirm that his "less than 1/7" of polygon is

$\frac{1}{4 + 2\sqrt{2}}$ for circumference. It is a **New Year Gift** (1st January 2016) to the World, indeed. Let us hope that **every**

**mathematician** who ever sees this truth will light his/her friend/student/neighbor, with this **Divine Truth** which eluded us unfortunately, every one, for 20 centuries. Thus, 20 centuries have gone by. So far so good. Divine Truth doesn't need a human proof/acceptance. Unseen ignorance is pardonable. Now, this truth is like **Rising Morning Sun. Excuse me Sirs**, countdown starts: every second counts! More details are available at www.rsjreddy.webnode.com

**CONCLUSION**

The true Pi value is 3.14644660941… A very very simplest relation exists between the square and its inscribed circle. This relation between the two: square and its circle, surprises the World of Mathematics, that the Creator runs the Cosmos on very simple mathematical principles.

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# THE HINDU

'Pi' stone, an attraction on SVU campus
» TODAY'S PAPER » ANDHRA PRADESH  TIRUPATI, November 1, 2011

Hard facts: The huge spherical rock installed on SV University campus in Tirupati. — Photo: K.V. Poornachandra Kumar

Passersby on Sri Venkateswara University campus are sure to stumble upon the huge spherical object that was recently installed in front of the main academic building. Curious onlookers get no idea of what the blank sphere conveys, until they get a bit closer and read the plaque underneath it. It was a humble tribute to his alma mater by a 'converted' math zealot!

R.D. Sarva Jagannatha Reddy is known for finding a new value to the mathematical constant 'pi'. While the value of 'pi' is 22/7 or 3.142, he calls it an 'approximation' at the third decimal, which holds good only for schoolchildren. He found the value as 3.1464466 or (14-Root2)/4. In a review in 'The Mathematical Gazette', Gerry Leversha of St. Paul's School, London refers to this 'extraordinary discovery' and lauds his 'remarkable insight'. Similarly, G. Narendran of Kollam, a life member of Indian Mathematical Society wished that the scientific world would accept the new value. What's more surprising is that Mr. Reddy, who spent 36 years to arrive at the new value, is actually a zoologist! He did his B.Sc Zoology in SVU during 1963-66 and subsequently M.Sc. He attributed his interest in maths to his teachers and offered this sphere as 'Guru Dakshina' to the varsity. He got the sphere made of quality granite, which weighs eight tonnes and measures six feet in diameter. SVU Vice-Chancellor N. Prabhakara Rao got the stone installed in front of the Mathematics department so as to inspire math students to think big. The varsity's plaque however has no mention on the acceptance of the new value.

"Nothing but a sphere can truly represent the spirit and essence of mathematics," Mr. Reddy told *The Hindu* . He hoped that the sphere would remain a source of inspiration for researchers to think beyond the possible.
*Zoologist-turned-mathematician R.D. Sarva Jagannatha Reddy installs it to inspire math students to think big*

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