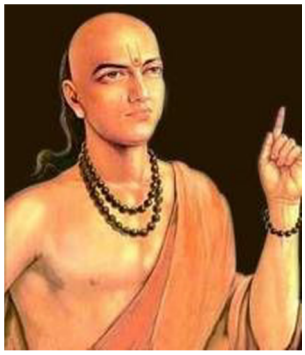
BRAHMAGUPTA METHOD TO DERIVE THE EXACT π EQUAL TO

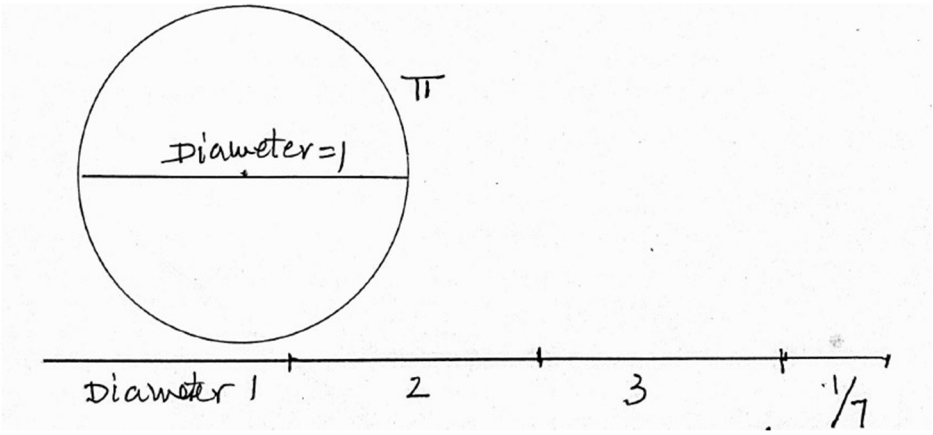
¼ $\left(14-\sqrt{2}\right)$!

(2510TH PAPER)



Brahmagupta (598-668) is an Indian Mathematician. He is credited as the 1st person to understand and formalize the concept of the number ZERO for nothing in mathematics.

1. Archimedes (240 BC)



3 diameters $+(\pi-3)$ equal to $\frac{1}{7}$

becomes $3+\frac{1}{7}=\frac{22}{7}$ as the value of circumference

$3+(\pi-3)=\pi=$ circumference.

2. Sir Isaac Newton, S.Ramanujan and many mathematicians have said that π is equal to 3.14159265358. The world is following this value now. It is an approximate number and also a transcendental number (C.L.F. Lindemann 1882) based on Euler's Identity $e^{i\pi}+1=0$.

This "π" concept has two forms one is π constant as equal to 3.14 and the second is π Radians as equal to $180^{0.}$

The Euler's identity accepts π radians 180^0 and rejects π constant 3.14

$e^{i}\times 180+1=0$

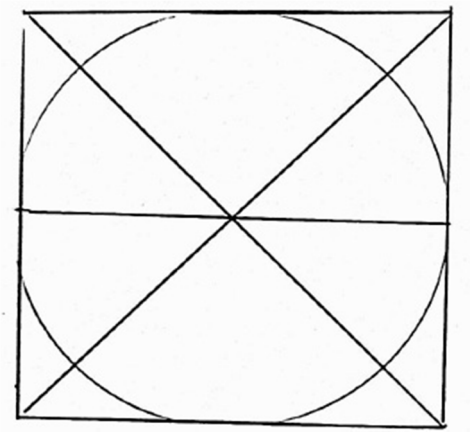
$e^{i\times 3.14}+1=?$

Are π radians 180^0 and π constant 3.14 same or equal or identical?

So, π constant 3.14…… has no place for itself in the Euler's identity.

Then, are we right in calling that π constant 3.14 as a transcendental number?

3. Draw a square, two diagonals and inscribe a circle having side of square = diameter of circle = 1



Square

Side length = 1

Perimeter = 1x4 = 4

Diagonal $=\sqrt{2}$

Two times of diagonal $=2\times\sqrt{2}$

$=2\sqrt{2}$

Circle

Diameter = 1 = d

Circumference $=\pi\times d=\pi d$

$=\pi\times 1=\pi$

Mathematicians have been struggling in finding the (π-3) length of 1/7 of Archimedes.

In this study we try to find (π-3) length 100% geometrically without going for "INFINITE SERIES"

4. The geometrical derivation of (π-3) length

Perimeter of square = 4

Sum of two diagonals $=2\sqrt{2}$

Let (π-3) is equal to

$$\frac{Side}{perimeter\ of\ Square+Two\ diagonals}=\frac{1}{4+2\sqrt{2}}$$

Then π is equal to 3 diameters $+(\pi-3)=\pi=$

$$\pi = 3 + \frac{1}{4 + 2\sqrt{2}}$$

$$= \frac{12 + 6\sqrt{2} + 1}{4 + 2\sqrt{2}}$$

$$= \frac{13 + 6\sqrt{2}\left(2 - \sqrt{2}\right)}{2\left(2 + \sqrt{2}\right)\left(2 - \sqrt{2}\right)}$$

$$= \frac{26 - 13\sqrt{2} + 12\sqrt{2} - 12}{2\left(4 - 2\right)}$$

$$\pi = \frac{14 - \sqrt{2}}{4} = 3.1464466094.....$$

5. Result:

π value of Archimedes

$$\frac{22}{7} = 3.14285714285.....\left(is\ used\ \ schools\right)$$

Second value of the world

3.14159265358….. (used in research labs)

It is a transcendental number (CLF Lindemann 1882)

New π value is $\frac{14 - \sqrt{2}}{4} = 3.1464466094.....$

It is EXACT and an algebraic number being a root of $x^2 - 56x + 97 = 0$

It can also be expressed as

$$\frac{5135}{1632} = 3.146446.....$$

Correct upto 6 decimal places and similar to 22/7 of Archimedes.

Whatsup Number:
8555 831979

R. Sarva Jagannadha Reddy
Srikalahasthi
26-Feb-2026

Gmail

Sarva Jagannadha Reddy <rsjreddy134194@gmail.com>

Follow-Up: Invitation to Speak at MPF-2026

1 message

physicalsciences@srcconferences.net <physicalsciences@srcconferences.net> Fri, Feb 20, 2026 at 11:34 AM
To: rsjreddy134194@gmail.com

Dear Dr. R Sarva Jagannadha Reddy,
Greetings from the MPF 2026 Organizing Team

I hope you are doing well

This is a gentle follow-up regarding our invitation to join us as a speaker at Mathematics & Physics Frontiers 2026, scheduled for April 22–23, 2026, in Frankfurt, Germany

We would be grateful if you could kindly confirm your participation at your earliest convenience. When feasible, please share your abstract, brief biography, and CV. If you have a full-length article prepared, you are welcome to submit it for publication consideration as well

Your expertise would be a valuable addition to the program, and we sincerely hope to have the privilege of hosting you!

Best regards
Alice
Program Co-Ordinator