



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

## CHANDRAYAN – 3 THEOREM

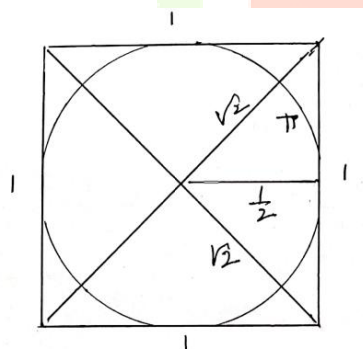
(1731<sup>ST</sup> Proof)

Sarva Jagannadha Reddy

### Introduction:

At present we have 2 values to  $\pi$ . And they are  $22/7 = 3.142857142\dots$  of Archimedes used in schools. The 2<sup>nd</sup> value is 3.14159265358..... of Isaac Newton, S. Ramanujan and of whole world used in research areas. Both the values are not exact values. It questions us what is the exact value to  $\pi$ . It must exist. Here is 1731 st attempt to find out the exact  $\pi$  value. This proof is very simple for the exact  $\pi$  value.

Today (6.00 PM, 23-August-2023) Chandrayan – 3 of India has landed on Moon, and hence the title in the honour of this achievement by Indian Space scientists located in Sriharikota, Tirupati District, Andhra Pradesh. This author is native of Tirupati City in the same district just 112 Km away from Sriharikota Space Rocket Launching Station.



We draw square, 2 diagonals and inscribe a circle in the square and hence side of square is same as the diameter of the inscribed circle.

### New Theorem:

The difference between the perimeter of square (4) and sum of 2 diagonals ( $2\sqrt{2}$ ) is equal to 8 times of the difference between the circumference ( $\pi$ ) and its 3 diameters”.

Perimeter of square- 2 diagonals = 8 (Circumference – 3 diameters)

$$4 - 2\sqrt{2} = 8(\pi - 3)$$

$$4 - 2\sqrt{2} = 8\pi - 24$$

$$4 - 2\sqrt{2} + 24 = 8\pi$$

$$28 - 2\sqrt{2} = 8\pi$$

$$\frac{28 - 2\sqrt{2}}{8} = \pi$$

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

It is called the Reddy  $\pi$  which has two forms: Exact form and approximate form (in decimal form).

$$= \frac{1}{4}(14 - \sqrt{2}) = 3.14644660942\dots\dots$$

#### Discussion:

Archimedes (240 BC) has said  $\pi$  is less than, remember, not equal to  $\frac{22}{7}$ . It means actual  $\pi$  value is less than

3.14285714285

The 3<sup>rd</sup> decimal is 2.

Later mathematicians especially Isaac Newton, S. Ramanujan and the whole world comprising millions of mathematicians have supported

3.14159265358.....

Agreeing with the opinion of Archimedes in its 3<sup>rd</sup> decimal place.

Unfortunately no body came forward with the Exact value to  $\pi$ . This deficiency is rectified now by the new  $\pi$  called the Reddy  $\pi$ .

$$\text{Archimedes' } \pi \quad \frac{22}{7} = 3.1428571428\dots\dots$$

$$\text{World } \pi \quad : \quad 3.14159265358\dots\dots$$

$$\text{Reddy } \pi \quad : \quad 3.14644660942 = \frac{1}{4}(14 - \sqrt{2})$$

Upto 2<sup>nd</sup> decimal all 3 values to  $\pi$  agree among each other. The difference between the world accepted  $\pi$  and the new  $\pi$  is from 3<sup>rd</sup> decimal place onwards.