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IS THERE SIMPLE LITMUS TEST TO KNOW THE TRUE π ?

(413 th Proof on Rho)

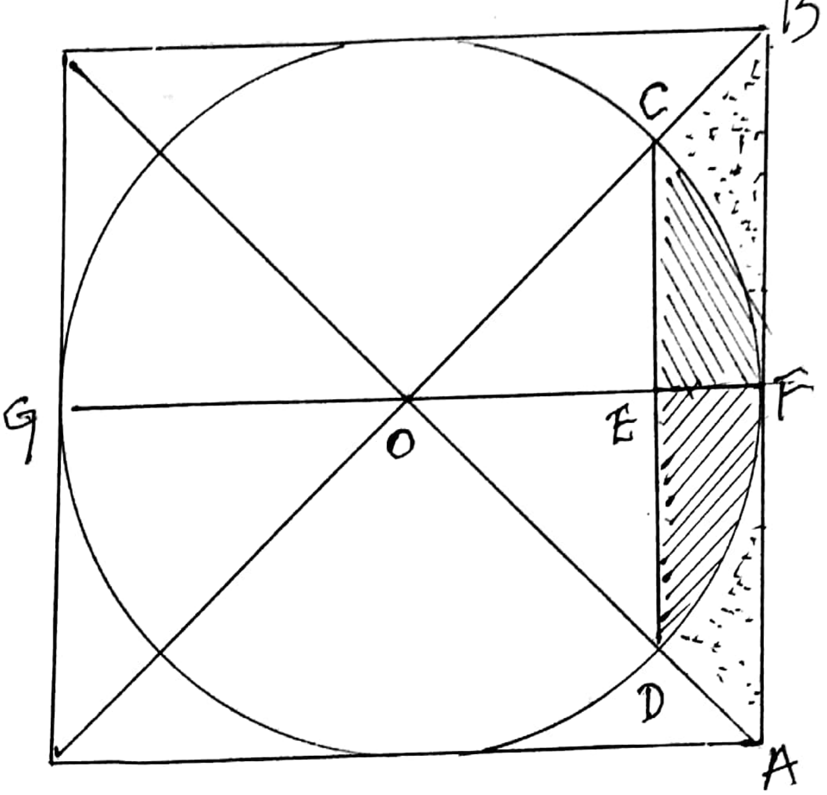

fig.1

Triangle BOA

Hypotenuse = BA

Circle

Radius = OF = $\frac{a}{2} = \frac{d}{2}$

Hypotenuse = a = d

Quadrant Of Circle = OCFD

Area of Quadrant = $\frac{\pi d^2}{4} \times \frac{1}{4}$

Area of BOA triangle = $\frac{1}{2} \times BA \times OF$

$= \frac{1}{2} \times 1 \times \frac{1}{2} = \frac{1}{4}$

Dotted Shaded area = BOA triangle − Quadrant

$= \frac{1}{4} - \frac{\pi d^2}{16} = \left(\frac{4-\pi}{16}\right) d^2$

There are two segments BCF and FDA in the dotted shaded area.
Then area of each segment is equal to $\left(\frac{4-\pi}{16}\right)d^2 \times \frac{1}{2} = \left(\frac{4-\pi}{32}\right)d^2$

So, BCF = FDA Segment $= \left(\frac{4-\pi}{32}\right)d^2$

Part II

We have two <u>more</u> segments which are striped: CEF & EFD
What is the formula to find out the area of these two striped segments. For this we have to find the area of smaller triangle COD.

Triangle = COD
OC = OB = Radius $= \frac{a}{2} = \frac{d}{2}$
Hypotenuse $= CD = \frac{\sqrt{2}a}{2} = \frac{\sqrt{2}d}{2}$

Area of smaller triangle is equal to $\frac{1}{2} \times CD \times OE$

Where $CD = \frac{\sqrt{2}a}{2}$, $OE = \frac{\sqrt{2}a}{4}$

$$= \frac{1}{2} \times \frac{\sqrt{2}a}{2} \times \frac{\sqrt{2}a}{4} = \frac{2}{16} = \left(\frac{1}{8}\right)a^2$$

$$= \frac{a^2}{8} = \frac{d^2}{8}$$

Area of Striped Segments

Quadrant area − Triangle OCD area

$$\frac{\pi d^2}{16} - \frac{d^2}{8} = \left(\frac{\pi - 2}{16}\right)d^2$$

~~Finally we~~ There are two segments in it

Area of each Segment $= \left(\frac{\pi-2}{32}\right)d^2$

Finally we have

1. Dotted Shaded area $= \left(\frac{4-\pi}{32}\right)d^2$
2. Striped Area $= \left(\frac{\pi-2}{32}\right)d^2$.

Part III

We make two π values

1. Classical π value = 3.1415926535 8
2. π of the Nature (Rho) = Cosmic π

$\frac{14 - \sqrt{2}}{4}$ = 3. 14~~64466094~~8

= 3.1464466094 1

Part IV ; Litmus Test

Let us take the ratio of two areas of Striped Segment and Dotted Segment.

$$\frac{\left(\frac{\pi - 2}{32}\right) d^2}{\left(\frac{4 - \pi}{32}\right) d^2} = \frac{\pi - 2}{4 - \pi}$$

Here is the formula based on

$$\frac{\pi - 2}{4 - \pi}$$

Ultimately we get $(\pi - 3)$ value. How? Here is the formula

$$\left\{ \left[\left\{ \left(\frac{\pi - 2}{4 - \pi} \right) - 1 \right\} \frac{1}{2} \right] + 1 \right\} \frac{1}{8} = (\pi - 3)$$

So, the above formula gives $(\pi - 3)$ value of the π used.

Second Condition

We should find a line segment for $(\pi - 3)$ too.

Part V

Which π value satisfies the above two conditions?

1. ending results as $\pi - 3$ value and
2. finding a line segment of $\pi - 3$.

The π that satisfies the above two conditions is the true π.

Part VI :- Classical π

$\pi - 2 = 3.14159265358 - 2 = 1.14159265358$

$4 - \pi = 4 - 3.14159265388 = 0.85840734642$

Let us introduce these values in the formula

$$\left\{\left[\left\{\frac{1.14159265358}{0.85840734642} - 1\right\}\frac{1}{2}\right] + 1\right\}\frac{1}{8} = 0.1456185114 4$$

Classical $\pi - 3 = 0.14159265358$

But, we have obtained 0.1456185114 4

Second Condition is also not satisfied.

How? Because there is no line segment representing 0.1456185114 4 in the Fig.

Result : Classical π has failed and hence it is not true π.

Part VII :– π Of Nature

$\frac{16-\sqrt{2}}{4}$

$\pi - 2 = 3.14644660941 - 2 = 1.14644660941$

$4 - \pi = 4 - 3.14644660941 = 0.85355339059$

Let us introduce these values in the formula

$$\left\{\left[\left\{\frac{1.14644660941}{0.85355339059} - 1\right\}\frac{1}{2}\right] + 1\right\}\frac{1}{8} = 0.14644660941$$

π of the Nature − 3 = 3.14644660941 − 3
= 0.14644660941 = π − 3

I condition is satisfied
II condition : finding its line segment ~~is also satisfied~~

Part VIII

In the fig. 1 we have OF and OE

$OF = \text{Radius} = \frac{a}{2} = \frac{d}{2}$

$OE = \frac{\sqrt{2}a}{4} = \frac{\sqrt{2}d}{4}$

$EF = OF - OE = \frac{d}{2} - \frac{\sqrt{2}d}{4} = \left(\frac{2-\sqrt{2}}{4}\right)d$

$$\frac{2-\sqrt{2}}{4} = 0.1464466094$$

Thus 2nd Condition is also Satisfied. ______

For the last many Centuries 3.14159265358 has been the accepted π value.

Sir Isaac Newton, S. Ramanujan, Leonard Euler, David Hilbert and such great people have supported 3.14159265358 as π value.

Y. Kanada of Tokyo University has become famous for using Super Computer and getting trillions of decimals of 3.14159265358.

It is surprising this Litmus Test rejects the status of π to the value 3.14159265358. Decision is yours!

Thank God

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