# HOW TO FIND THE EXACT CIRCUMFERENCE OF A CIRCLE?

**1. Present Method**

Let the radius is 4 = r

Formula $= 2\pi r$, where π is 3.14159265358…….

Circumference = 2 x 3.14159265358 × 4 = 25.1327412286

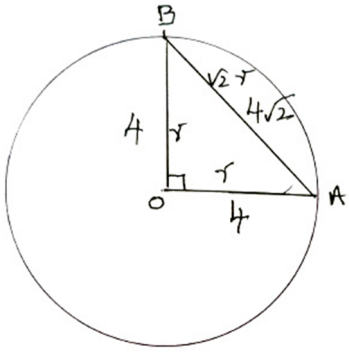
As π value 3.14159265358 is an approximate value the circumference is also an approximate value.

**2. New Method (Radius – Chord Method)**

Now we do not use π value instead, we use two dimensions

1. Radius and 2. Chord and they are related in a definite proportion.

Let us draw a circle with its radius 4.




OA = OB = 4 (Radius)

Chord = AB $= 4\sqrt{2}$

## *Statement*

"The remaining length after deducting half of Chord length from the seven times of radius is equal to the Exact Circumference of the Circle".

Seven times of Radius – Half Chord = Circumference

$$(7\times 4)-\frac{4\sqrt{2}}{2}=2\pi r$$

28 – 2.82842712474 = 25.1715728753

**3. Result**

Present π value says circumference is 25.1327412286

The Radius – Chord method says = 25.1715728753

Difference = 25.1715728753 – 25.1327412286 = 0.0388316467

## 4. Discussion

The millions of mathematicians since 15th Century (Madhav of Infinite series of India) and John Wallis and James Gregory (1660) of England and Scotland have been saying π value of "INFINITE SERIES" is equal to 3.14159265358…… Trillions of decimals is an APPROXIMATION at its last decimal onwards. It implies that there exists another value to π. It is not an extreme idea if we say there is an EXACT VALUE to π

What is that? Does circle is enough?

This study since March 1998 says "Circle is enough" since 1972 to March 1998, very lengthy persistence helped that CHORD of circle along with it basic dimension RADIUS.

**Based on the above study, the π value too can be derived.**

If, 7 times of radius – Half Chord = Circumference then

$$\left(7r - \frac{\sqrt{2}\,r}{2}\right) = 2\pi r$$

$$\left(\frac{14 - \sqrt{2}}{2}\right) r = 2\pi r$$

$$\left(14 - \sqrt{2}\right) \not{r} = 4\pi \not{r}$$

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

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