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Closed-Form-Derivation of Pi from Phi

It has been proved by earth's thought-leaders in mathematics ¹ that Pi can be exactly derived from a whole number and that the previously used value of Pi by "legacy mathematics" is approximately 0.0958% too small (3.141 vs 3.144). This becomes significant at the level of precision needed in producing synchronously reinforcing magnetic-field producing structures.

This is possible because a new discovery has been made allowing phi to be defined in terms of a ratio of the area and circumference of a circle. The derivation proof from this discovery is introduced below.

Current methods of finding Pi using "successive approximation" of a curve into lines fall short. Pi cannot be solved via successive approximation and will always come up as short (which is why current methods show it is 3.141) - this is because of the fractal nature of space and that a curve in space can actually be subdivided infinitely. So no matter how many times you divide a curve into a straight line and do another successive approximation - there will still be a portion of the curve, or another crevice inside of the curve - that you still have not gotten. Thus all previous methods at calculating pi from successive approximation of curves into lines fall short because they are missing small crevices in the curve.

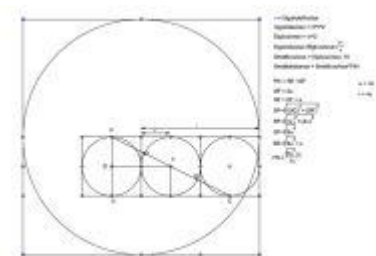
Incorrect value of Pi obtained from successive approximation of curves	3.14159265358979323846264338327950288419716939937510 (...)
True fractal-based closed-form-derivation value of Pi	3.14460551102969314427823434337183571809248823135089 (...)

PHI AS UNIVERSAL CURVATURE CONSTANT DERIVED FROM THE PROPERTIES OF THE CIRCLE

1. A closed-form-derivation of Pi is now possible based upon a new finding from breaking a square into 16 parts that Phi can be expressed in terms of a circle's area and circumference:

$$\text{CircleArea} = (\text{CircleCircum} * \text{SquareArea}) / (8 * \text{CircleRadius})$$

2. The closed-form derivation of Phi is known to be $\sqrt{5}/2 + 1/2$ as shown [here](#). ²



$$\text{Phi} = (\sqrt{5} + 1) / 2 = \sim 1.618$$

3. Thus the derivation follows for legacy pi:

$$\begin{aligned} \sqrt{5}/2 + 1/2 &= 256 * \text{area}^2 / \text{circum}^4 \\ \sqrt{(\sqrt{5}/2 + 1/2)} &= 16 * \text{area} / \text{circum}^2 \\ \sqrt{(\sqrt{5}/2 + 1/2)} &= 16 * \pi * r^2 / (2 * \pi * r)^2 \\ \sqrt{(\sqrt{5}/2 + 1/2)} &= 16 * \pi * r^2 / 4 * \pi^2 * r^2 \\ \sqrt{(\sqrt{5}/2 + 1/2)} &= 4 / \pi \end{aligned}$$

$$\text{Pi} = \sqrt{16 / ((\sqrt{5} + 1) / 2)}$$

PI NOT NECESSARY

$$\text{Pi} = \sqrt{16 / \text{Phi}}$$

$$\text{Phi} = 16 / \pi^2$$

QED

THE MOST ELEGANT CONSTANT IS: **Phe = 1 / sqrt(Phi)**

$$\text{Phe} = 1 / \sqrt{(\sqrt{5}+1)/2} = \sim 0.78615137775742(\dots)$$

$$\text{Phe} = \text{CircleCircum}^2 / \text{CircleArea} * 16$$

$$\text{CircleArea} = (\text{CircleCircum}^2) / (16 * \text{Phe})$$

CIRCLE DERIVED FROM PHE - PI NOT NEEDED FOR CIRCLE CALCULATIONS

The implications of this are that Pi as a symbol is not necessary and should be discarded with. Everything can be done in terms of Phe (~0.78615). There is only one universal curvature constant that everything is based upon.

New Formula for Circle Area

$$\text{CircleArea} = 4r^2 * \text{Phe}$$

$$\text{CircleArea} = \sim 4r^2 * 0.78615$$

New Formula for Circle Circumference

$$\text{CircleCircum} = 8r * \text{Phe}$$

$$\text{CircleCircum} = \sim 8r * 0.78615$$

IN TRADITIONAL TERMS

$$\text{Pi} = \text{Phe} * 4$$

Related Links:

[Phe - Universal Curvature Constant](#)

References

- [1 http://www.jainmathemagics.com/page/10/default.asp](http://www.jainmathemagics.com/page/10/default.asp) and <http://www.jainmathemagics.com/product/134/default.asp>
- [2 Inspiration from Bengt Erik Erlandsen - http://goldennumber.net/phiformulageometry.htm](http://goldennumber.net/phiformulageometry.htm)

