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Archimedes' Constant

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ABSTRACT

In examining the area of a square within the area of a circle whose diagonal line bisects the square into two equal halves of the right triangles; is the diameter of that circle's area in consideration. Clearly, transformation of a circle determines the ratio of expansion- in relation to its radius given that it is increasing by half. Thus, as the difference of the areas of the relative circles is half of pi; then subtracting the larger area of a circle from its larger relative square which is within its circumference: with that of the smaller area of a circle whose smaller square is also within its radius- results into half of pi minus half. Where then it is easier from such, to deduce the Archimedes constant.while the GDP is projected to increase from $603 billion in 2020 to $15 trillion in 2063. The military spending is projected to increase from $2.6 billion to $33.94 billion, and the trade balance is projected to increase from $15 billion in 2020 to $29.99 billion in 2063. The study concludes that the projected indicators align with the 2063 Africa Agenda and recommends policies that would foster sustainable economic growth and development in Nigeria. By understanding the trends and patterns of these socioeconomic indicators, policymakers can make informed decisions about how to allocate resources and promote sustainable development in Nigeria and beyond.

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Introduction

Why are numbers; not just numbers as such, so as to dispute their indispensability? Ever since its inception through Archimedes. Pi has always been an intriguing constant, but so much so, because it has been baffling mathematicians. With regards to its origin; as to what exactly, was Archimedes studying when he discovered it. Up to this point, that remained a mystery. However, now it is proven and known- that part of its nature has to do with its geometric construction. Half seems to be a very significant number, even in number theory. So important that even the hypothesis of Riemann holds because of it. While the other part of it: has to do with the number itself that is a very important constant in the mathematical realm, which is $\boldsymbol{\pi}$.

Symmetry is the universal language of numbers. Asymmetry by nature; is its default language. Such that if we are to pursue the foundation of mathematics; it is not be ignored that its point is always about squares and primes. So whenever objects undergo transformation with regards to their prior states; it is argued that the difference of expansion is holding as follows:

$$A_{circle1} - A_{circle2} = (\pi 1^2) - (\pi (\tfrac{1}{2})^2) = \frac{3}{4}(\pi)$$

$$A_{circle3} - A_{circle4} = (\pi (\tfrac{3}{2})^2) - (\pi (1)^2) = \frac{5}{4}(\pi)$$

$$A_{circle5} - A_{circle6} = (\pi (2)^2) - (\pi (\tfrac{3}{2})^2) = \frac{7}{4}(\pi)$$

So that when the object is transformed in space- at a given constant which is half; as an object it displays relative symmetrical changes that becomes the basis of the Archimedes' constant. And intuitionism at this point has succeeded in proving its irrefutable existence. Below, is the entire proof of everything that is stated by these statements.

$$(A_{circle3} - A_{circle4}) - (A_{circle1} - A_{circle2})$$

$$= \frac{5}{4}\pi - \frac{3}{4}\pi$$

$$= \frac{\pi}{2}$$

$$(A_{circle5} - A_{circle6}) - (A_{circle3} - A_{circle4})$$

$$= \frac{7}{4}\pi - \frac{5}{4}\pi$$

$$= \frac{\pi}{2}$$

From the statements presented- it holds true that one is not only a square, but an integer that defines the equation of a circle. Most recent mathematicians, believe tau to be simpler in understanding the mechanisms of the Cartesian coordinate system. But it has been recently, established that primes and squares have mysterious relations, that if discovered: would simplify the nature of the cosmos.

$$((A_{circle2}) - (A_{square2})) - ((A_{circle1}) - (A_{square1}))$$

$$= ((\pi(\frac{3}{2})^2) - (\frac{3}{2} \times \frac{3}{2})) - ((\pi(1)^2) - (1 \times 1))$$

$$= \frac{5}{4}(\pi - 1)$$

$$((A_{circle3}) - (A_{square3})) - ((A_{circle2}) - (A_{square2}))$$

$$= ((\pi(2)^2) - (2 \times 2)) - ((\pi(\frac{3}{2})^2) - (\frac{3}{2} \times \frac{3}{2}))$$

$$= \frac{7}{4}(\pi - 1)$$

$$((A_{circle4}) - (A_{square4})) - ((A_{circle3}) - (A_{square3}))$$

$$= ((\pi(\frac{5}{2})^2) - (\frac{5}{2} \times \frac{5}{2})) - ((\pi(2)^2) - (2 \times 2))$$

$$= \frac{9}{4}(\pi - 1)$$

So that the difference of the area of expansion of a circle as it increases relative to the area of a square is

$((\frac{9}{4}(\pi - 1)) - (\frac{7}{4}(\pi - 1)))$	$((\frac{9}{4}(\pi - 1)) - (\frac{7}{4}(\pi - 1)))$
$= \frac{1}{2}(\pi - 1)$	$= \frac{1}{2}(\pi - 1)$

If an area is evaluated given half a diameter of a circle: and expanded by half- the object expands with a constant factor generalising the fundamentality of the Cartesian coordinate system. *It cannot be falsifiable therefore, that the constant of Archimedes holds as follows (since through it, Euler's number is proven to hold*):

$$\vartheta = \frac{\pi^2}{2} - \pi + \frac{1}{m^\infty} \quad for \ \{m \in \mathbb{R} \mid (-\infty, -1) \cup (1, \infty)$$

Given that $e = \vartheta + (\frac{-x^2+2e+2\pi}{2})$ where $x = \pi$.

Since it should be true relative to any object in space that it exists at a particular point in time; then it is said to be approximate.

At $\frac{1}{m^\infty}$ the *Archimedes*' constant is reached, or approximated at a limit of a particular variable. Suggesting the covariance of the plane itself...*It is the universality of language that its nature- is complexity which is merely, abstraction simplified.*

And thus; $\vartheta = \frac{\pi^2}{2} - \pi$ holds.

It also has properties related to the nature of complex numbers; and thus, can be argued as follows:

$$((\frac{\pi^2}{2} - \pi) - \sqrt{1}) + e^{-2i\pi} = \vartheta$$

$$\therefore ((\frac{\pi^2}{2} - \pi) - \sqrt{1}) + 1 = \vartheta$$

Conclusion

It has been proven therefore, I conclude- that mathematical constants can be calculated to their approximate limit; simply, by relation of objects in space. Then not only, are such constants true, as they hold and exist. It thus, becomes clearer that such relative objects also exists. The method of using mathematical constants to approximate the quantities of objects proves to simply the complexities about the nature of numbers [1-4].

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