

Properties of Objects and Their Transformation on the Plane

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Abstract: Every function has its properties relative to the mechanisms of a circle, since cycles repeat. Such that all equations factor so well within its definition, that clearly, every circle has a radius that is greater than zero. If the radius expands by any set of numbers, then it is transforming. Hence, every object under it expands at a specific ratio. To a point that it is pretty natural for phenomena to repeat, given that it is within the area of its circumference. Although the events are not the same. Functions tend to approximate mathematical constants, primarily due to their periodicity of behaviour, as they are cyclic under certain conditions. The centre of a black hole is a point, so much like that of a circle. Since, therefore, objects alter the state of dimensions they occupy, so that relative to the point of reference, they either appear as paraboloids, ellipses, hyperbolas, or circles, depending on the context.

Keywords: Transformation, Objects, Hyperbolas

I. INTRODUCTION

How are mathematical objects transformed in space? Numbers are not objects of any value; we are not familiar with them. For their generality in space and time, they define every branch of mathematics and science. Such that every field exists because there's proof of what it claims. However, not every discipline outside empirical studies can reason with much sophistication on behalf of nature, such as the field of mathematics. While functions are circular, therefore, they mean that behaviourally, they repeat, as in following a particular fixed pattern; this suggests much about their eccentricity. If it is not there, then a perfect circle is likely, as a possible outcome, given that alternative outcomes are other objects such as ellipses, paraboloids, and hyperbolas. From different viewpoints, the object in question is defined about other objects, such that what happens to an object cannot be said to be happening independently, without context. Often, it is thought that the plane's section is only possible in higher dimensions; however, such phenomena exist, even in lower dimensions. And given their value to the entirety of the existence of the plane itself, what state of validation do they hold, without any reference to it? Below is the examination of such objects as entities of space, given their proof of relation to mathematical constants,

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As justified by their existence and their relativeness to each other, as phenomena which share common properties of the Cartesian coordinate system within which they exist. In space, objects can transform given fundamentals, which are, by far, the properties of the plane. Here, proof is provided on how the parabola can result in mathematical constants, and how such numbers can be retained through an algebraic analysis of the conic function and the hexagon, which is under investigation.

If
$$\frac{y^2}{2} - \frac{x^2}{2} = 1$$
, then it holds as follows, such that $\frac{y^2 - x^2}{2} = 1$
 $y^2 - x^2 = 2$
 $y^2 = x^2 + 2$
 $\therefore y = \sqrt{x^2 + 2}$
And it can be concluded as follows: $(\sqrt{x^2 + 2})^2 - x^2 = 1$

And it can be concluded as follows: 2

$$\frac{x^{2}+2}{2} - \frac{x^{2}}{2} = 1$$

$$\frac{x^{2}-x^{2}+2}{2} = 1$$

$$1 = 1$$

$$1 - 1 = 0$$

$$\therefore 0 = 0$$

Thus, from logic it holds that it can be reasoned further, and justified as follows, such that it can be stated that since: $2\varphi - \sqrt{5} = 1$, then the following holds: $\frac{y^2}{2} - \frac{x^2}{2} = 2\varphi - \varphi$ $\sqrt{5}$

$$\frac{y^2 - x^2}{2} = 2\varphi - \sqrt{5}$$
$$y^2 - x^2 = 2(2\varphi - \sqrt{5})$$
$$y^2 - x^2 = 4\varphi - 2\sqrt{5}$$
$$\therefore 2 = 4\varphi - 2\sqrt{5}$$

So that while the above is true, it also follows that 2x - x2y + 1 = 0

$$2x - 2y = -1$$
$$\frac{2(x - y)}{x - y} = \frac{-1}{x - y}$$



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$$\therefore 2 = -\frac{1}{x-y}$$

In such a way that when it is evaluated on a one-to-one basis, then what follows cannot be otherwise, or proven false, since it holds: $4\varphi - \sqrt{5} = -\frac{1}{x-y}$

$$(4\varphi - \sqrt{5})(x - y) = -1$$
$$2(x - y) = -1$$
$$2(x - y) = e^{i\pi}$$
$$\therefore e^{-i\pi}\sqrt{2(x - y)}$$

Such that from the derivation of Euler's identity, the diameter is retained as follows: $\frac{2(x-y)}{x-y} = \frac{e^{i\pi}}{x-y}$

$$\therefore 2 = \frac{e^{i\pi}}{x - y}$$
Hence, the following is true: $4\varphi - 2\sqrt{5} = \frac{e^{i\pi}}{x - y}$
 $(4\varphi - 2\sqrt{5})(x - y) = e^{i\pi}$
 $x - y = \frac{e^{i\pi}}{4\varphi - 2\sqrt{5}}$
 $x - y = \frac{e^{i\pi}}{2}$
 $\therefore x - y = -\frac{1}{2}$ And from what holds: $\therefore x = -\frac{1}{2} + y$

So that when such a value is substituted into the above equation, then it becomes clear that Euler's identity is retrievable from simple rules of geometry and algebra; and thus, holds, as follows:
$$2(x - y) = e^{i\pi}$$

$$2\left(-\frac{1}{2}\right) = e^{i\pi}$$
$$\therefore -1 = e^{i\pi}$$

And it can be further stated that 2x - 2y + 1 = 01 = -2x + 2y

$$1 = -1(2x - 2y)$$
$$\frac{1}{2x - 2y} = \frac{i^2(2x - 2y)}{2x - 2y}$$
$$i^2 = \frac{1}{2x - 2y}$$
$$\therefore i = \sqrt{\frac{1}{2x - 2y}}$$

Therefore, it is logical and accurate that the following holds: $\frac{\log_e 2(x-y)}{i} = \pi$

And in general, $\sqrt{x^2 + y^2}$ is a cone with threedimensional properties. However, when $\sqrt{x^2 + y^2} =$ 1Therefore, it has transformed into a circle on a twodimensional plane. However, as the perspective shifts in mathematics, an object can be easily converted from onedimensional to two-dimensional, and even three-

dimensional projections in space. This means that space is a set of coordinates, and when an object is viewed from a onedimensional or two-dimensional perspective, it may appear as either a linear function or a non-linear function. Furthermore, when $\sqrt{x^2 + y^2}$ divides by specific values in which $\alpha \neq 0$ and where $-\infty < \alpha < \infty$, then such an object is said to be transforming, as it is transformed into a flat surface in three-dimensional space which is a plane.

And that is represented or stated as follows: $\frac{\sqrt{x^2+y^2}}{\alpha}$ But when a cone divides $x^2 - y^2$ then space has a flip into its composition, and a perfect circle into the centre of the plane is obtained when the said expression is diving the cone. And when that cone is multiplied by β – values where such does not equal zero, but is found to be either less than, or greater than that value, as follows:

 $\frac{x^2-y^2}{\beta\sqrt{x^2+y^2}}$, then warped space is flattened, that is, now transformed into a plane, as the values of β either increases or decreases.

However, if the following holds: $y^2 - x^2 = 2$ $y^2 - x^2 - 2 = 0$ $-2 = -y^2 + x^2$ $\therefore x^2 - v^2 = -2$

Then, space results in a different outcome as the hole at the centre of the plane is transformed into one that has conic properties. And therefore, the result holds as follows:

$$\frac{-2}{\beta\sqrt{x^2+y^2}}$$

II. CONCLUSION

From all the above, it is understood that objects of any mathematical value in space transform. And when such objects have done so, it can only be said that they exist within certain intervals as specified with respect to the conditions in which they hold. So that on one-to-one correspondence, objects not only assume common properties which are inherent in space, but also share specific attributes which exist because of their relation. Even on complex grounds where the coordinate system extends beyond lower dimensions. Still, the rules that guide the system do not seem to break simply because there is a shift in perspective. And thus, this proves the validity of the system upon which the reality of the cosmos rests. And while it may be true that particular objects which are not known are not yet proven to exist, at least at this point in time, we can rest assured that blackholes do exist. And by far, such is the mathematics behind the transformation of objects in space. And if all is validated above, then it cannot be deniable that transformation of the golden ratio, that is, from being one which is the radius of the unit circle; is the same as stating that such a value when multiplied by a particular variable which is equal to two, yields two, or equals two, as well.

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The result, explicitly, states that phi is now doubled, and the vertical axis of the function is such that it is equal to the diameter of a circle. And for every object whose properties are valued to be equal to one, it is simplified to its lowest factors such that it is defined accordingly, to the proportions of a unit circle.

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REFERENCES

- Andreescu, T. & Andrica, D., 2005, Complex numbers from A to...Z, Springer, New York. <u>https://doi.org/10.1007/0-8176-4449-0</u>
- Euler, L. 1984. Elements of Algebra, transl. Rev. J. Hewlett, Springer-Verlag, New York. <u>https://doi.org/10.1007/978-1-4613-8511-0</u>
- Gibson, C. G, 2003, Elementary Euclidean Geometry: An introduction, Cambridge University Press, United Kingdom. <u>https://doi.org/10.1017/CBO9780511755194</u>
- Hirzebruch, F, 1983, Arrangements of lines and algebraic surfaces in Arithmetic and Geometry, Vol. II, Birkh"auser, Boston, MA, pp. 113– 140. <u>https://doi.org/10.1007/978-1-4757-9286-7_7</u>
- Ultrich, L., Rohde, G., Jain, C, Podder, AK, & Ghosh, AK, 2012, Introduction to differential Calculus: Systematic studies with Engineering Applications for Beginners, New Jersey.
- Riemann, B., 1859, 'On the Number of Prime Numbers less than a Given Quantity', transl. D. R. Wilkins, Monatsberichte der Berliner Akademie, November, 1-10.
- Samuel, P., 1988, Projective Geometry, Springer-Verlag, New York. https://doi.org/10.1007/978-1-4612-3896-6
- Sarnak, P., 2004, 'Problems of the Millennium: The Riemann Hypothesis', Princeton University & Courant Institute of Math. Sciences, April, 1 – 9.

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