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Ancient Mathematical Physics V

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Abstracts

Continuing with the theme of Ancient mathematical physics, we see in this paper that Brahmagupta knew more mathematical physics than we previously knew until Astrotheology.

Keywords: Brahmagupta; Ancient Indian Mathematics; Astrotheology

Introduction

In this paper, we consider what Brahmagupta knew in 600 AD. We will see that he knew more mathematical physics than we knew today, until Astrotheology Brahmagupta (597-668AD) the great Indian Mathematician, knew all this math and physics. For example, he had a value for Pi=3.162; knew the quadratic equation; found the formula to calculate the area of a four-sided figure inscribed in a circle; established rules for working with positive and negative numbers. The debate between Newton and Leibniz is a moot point. Calculus was known to the Indian Mathematician Brahmagupta in the 7th Century. It may have been known centuries earlier by the Sumerians, Babylonians, and Egyptians.

From the blog "The Storey of Mathematics", we learn that the Babylonian Mathematicians knew all about Astrotheology Mathematics [1].

They knew for example that:

$E = 1/\sin 60°$ Hexadecimal system

$60 = 1 = E$

$1/3661 = 2.731491127 = 1 + \sqrt{3}$

$M = Ln\ t = Ln\ 1 = 0$ Zero as a place holder.

$E^2 = t^2 = \left(\sqrt{-1}\right)^2 = -1$ Squares

$Reciprocals\ E = 1/t$

$t = 1$

$t = \sqrt{3}\ eigenvector$

$\sqrt[3]{8} = 2 = E = G$

$E = \sqrt{2}\ to\ 5$ decimal places

$t = \pi = 3.125 = 3 + 125 = t + \left(-E_{min}\right)$

$a^2 + b^2 = c^2$

$3^2 + 4^2 = 5^2$ (3 knuckles/ finger; 4 fingers x 3 knuckles=12; 5 digits x 12=60)

$t = 3;\ E = 5\ t^2 - t - 1 =$

$dE/dt = 2t - 1$

$E = dE/dt +$

$y = y'$

$t^2 - t - 1 = 2t - 1$

$t = 3;\ E = 5$

$t^2 + M^2 = E^2$

$KE + PE = TE$

$1/2Mv^2 + Mc^2 = TE$

$1.5\left(M\right)c^2 = 1.5\left(4\right)x\ 9 = 54 = 60 - 6$

$60 = 1/60 = 0.01666$

(Figure 1) Functions, algebra, linear equations, quadratics, cubic

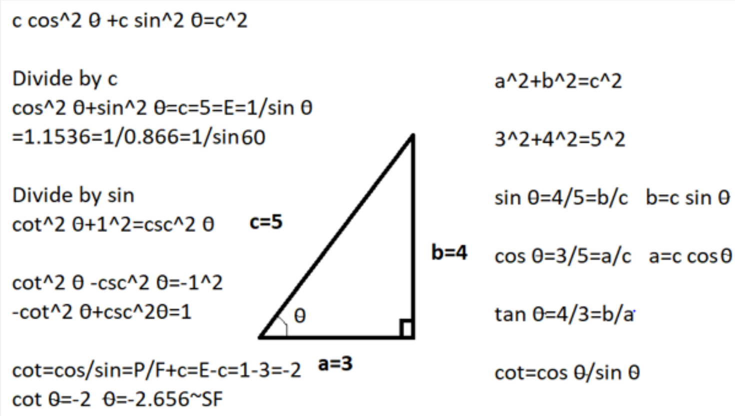

Figure 1: 3-4-5- triangle & the superforce.

$t^2 - t - 1 = E$ (Quadratic function) =eigenfunction

$roots\ t = -0.618;\ 1.618$

$Reciprocals\ x = 1/\left(x-1\right) = t^2 - t - 1$

$2t - 1 = 0\ Linear\left(Matrices\right)$

Babylonian Hydraulic Engineering:

Bernoulli's Equation 1738 AD, is one form:

Head=Pressure Head + Elevation Head Velocity Head

$H = p/\gamma + z + V^2/2g$

$= PE + PE + KE$

$4 + 5 + 3$

$= 12$ (3 knucles and 4 digits)

Or:

$H = Mc^2 + Fdt + 1/2Mv^2$

Aside:

$F = GM\ st$

$= 6.67\left(4\right)\left(\sqrt{3}\right)^2$

$= 8$

$E = 1/\sin\ \theta = 1/F = 1/8 = 1.25$

$= \left(4\right)\left(3^2\right) + \ MG\ s\ t + 1/2\left(4\right)\left(1/\sqrt{2}\right)^2$

$= 36 + 1.25 + 3$

$= 40.25$

=Reynold's Number

$0.402/60 = 6.7 =\sim 6.67 = G$

$F = GM = 6.7\ x\ 4 = 2.68 = Superforce$

$F = GM = -6.7\left(4\right)\left(4/3\right)x3/sqrt3 = -61.8 = i = t$

This all comes from Astrotheology Mathematics (Figures 2 & 3).

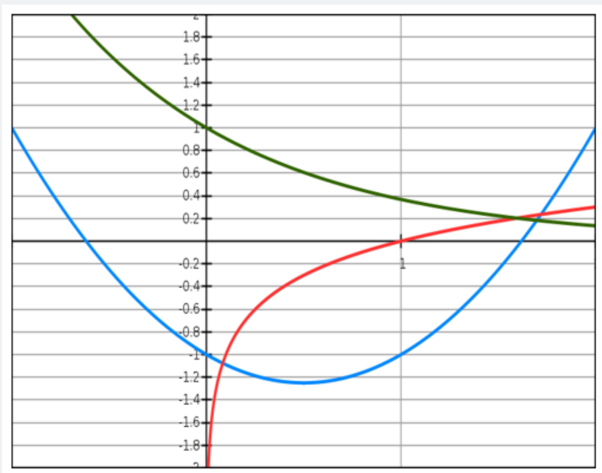

Figure 2: GMP; Ln t; e^-t.

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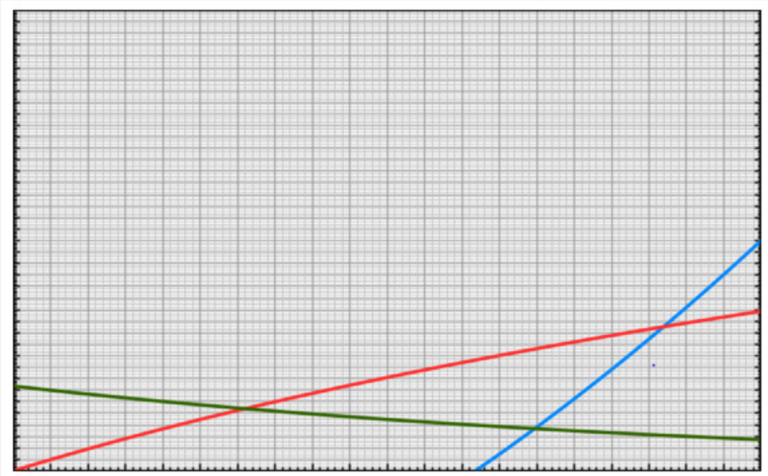

Figure 3: Critical Area.

So how do we get negative area?

Area of triangle by vertices=

$$½\left\{17.3(0.618)+1.618(2.51-12)+24(12-0.618)\right\}$$

$$=1/2\left(10.6914+(-15.35)+2.73168\right)$$

$$=1/2(-2.00)$$

$$=(-1)=E$$

$$t\wedge 2-t-1=E=-1$$

$$t=0,1$$

The Area turned out to be

$-1=E$ *Can we have negative area? Yes* / $-E\ t=-t\wedge 2=\left(-\ -sqrt-1\right)\wedge 2=-1$

$$t\wedge 2-t-1=-1$$

$t=0,1.$ t is always positive. $M=Ln\,t\ =E$

$$-1=Ln\ t$$

$t=e\wedge -1$ which is always positive.

Time is always positive. Yet, E can be negative (Figure 4).

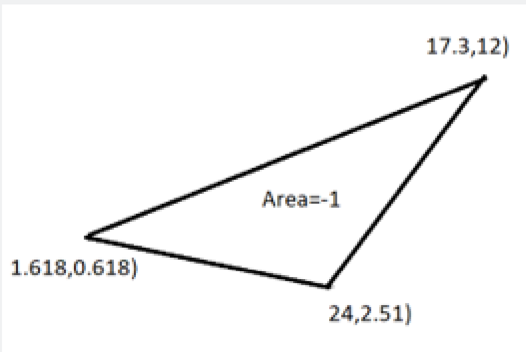

Figure 4: Area of a triangle by vertices.

So, M can be negative between 0 & 1.

So, time is always positive. Energy can be negative (-1). Mass can be negative.

$$E=1/t-1=1/t\,t=-1$$

$$E=1/t$$

$$\int E\ dt=\int 1/t$$

$$\int(-1)\ dt=Ln\ t$$

$$-t\neq Ln\ t$$

$$\int Edt=E^2/2\Rightarrow E^2=always\ positive.$$

$$If\ \ E=-1,\ \ (-1)^2/2=1/2=positive.$$

Time is always positive.

So

Positive x positive=-positive

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Negative x negative =positive.

Positive x negative =negative

$t\ x\ \left(-1\right)=\left(-Et\right)$ Negative area.

$0\le t\le 1\Rightarrow E=-ve\ M\ =-ve$

$E=1/t$

$E=t$

t is always positive. Therefore, E must always be positive. And M must also be always positive.

$t=-0.618=i=(sqrt\left(-1\right)$

$t\ ^\wedge 2=(sqr\left(-1\right)\ ^\wedge 2$

$t\ ^\wedge 2=-1=Area$

$E\ x\ t=-1=Area$

Therefore, t can be negative.

Conclusion

We see that there is proof that at math is ancient. The ancient mathematicians knew a lot more mathematical physics than we previously thought.

References

1. Brahmagupta | The Great Indian Mathematician and Astronomer (cuemath.com).

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