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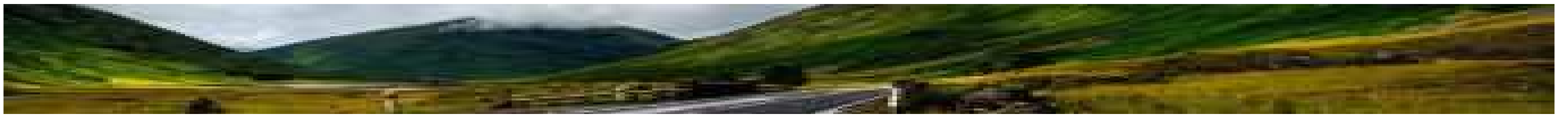


In the past they didn't understand what Riemann meant, So in the past no one could solve it, Riemann wants to look in a different way to the Sin curve and its intersection with the numbers line, to refer to the numbers we need instead of using the pen and writing it directly on paper.

It was published in the Journal of Mathematics 2016 and 2017

First:

Riemann wants to say that the equations of gamma are Riemann's equations and we will explain this.

$$\Gamma(S) = \frac{2^{S-1}\pi^{S}}{\cos\frac{\pi S}{2}}$$

$$\Gamma(1-S) = \frac{2^{-S}\pi^{1-S}}{\cos\frac{\pi(1-S)}{2}}$$

$$\zeta(S) = 2^{S}\pi^{S-1}\left(\cos\frac{\pi(1-S)}{2}\right)\Gamma(1-S)\ \zeta(1-S)$$

Second:

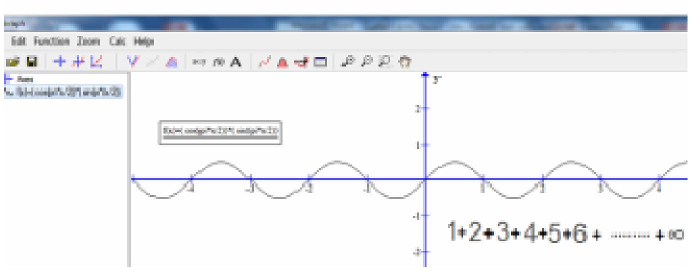
The idea of Riemann.

We will explain a new way to get all numbers and prime numbers by looking at a graph program after writing all the equations,

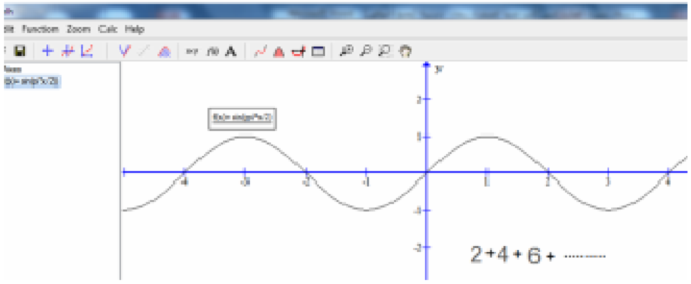
(We have to agree on the following: When we write an equation refers to all the integers numbers we read all the integers numbers to infinity, so that the equation equals to all integer numbers, and we will write what we have read)

look at the three figures,

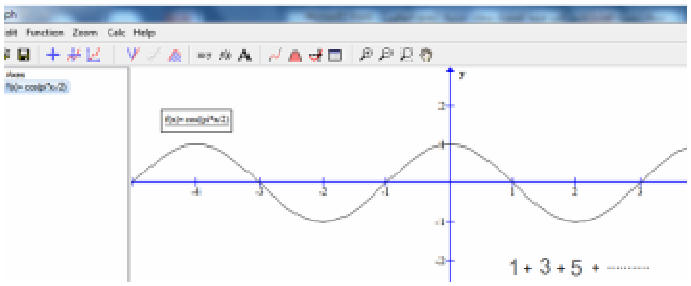
$$\cos\frac{\pi s}{2}\ \operatorname{Sin}\frac{s\pi}{2} = \frac{\operatorname{Sin}\ \pi S}{2}$$



$$\sin \frac{s\pi}{2}$$



$$\cos \frac{\pi s}{2}$$



Another meaning.

When we write an equation refers to all the even numbers we read all even numbers to infinity

When we write an equation refers to all the odd numbers we read all odd numbers to infinity

When we write an equation refers to all the integers numbers we read all the integers numbers to infinity

Thus, the equation which refers to integer numbers is instead of writing them on paper as in the past.

In the gragh 1/2 sin πs = 1+2+3+4+5+6+7+---------

we will call 1/2 sin πs = "Anesti(s)"

Anesti(s)=1+2+3+4+5+6+7+---------

we will call ζ(s) = "Anesti(s)"

This is another formulation of zeta ζ(s)=(1/2)sin πs

3)The proof of Riemann Hypothesis .

$$\sin\frac{\pi}{2} = 1 \quad , \quad \cos\frac{\pi}{2} = 0$$

$$\text{Cos } j\pi t = 1 - \frac{(j\pi t)^2}{2!} + \frac{(j\pi t)^4}{4!} - \frac{(j\pi t)^6}{6!} + \text{---}$$

$$\zeta(S) = \text{Anesti } (s) = Æ\,(S) = \frac{Sin\ \pi S}{2}\ \text{Rad}$$

$\mathcal{E}(s) = \frac{Sin\ \pi S}{2}$

Compensation in the equation for the value $S = \left(\frac{1}{2} \pm jt\right)$

$\mathcal{E}\left(\frac{1}{2} \pm jt\right) = \frac{1}{2} Sin\ \pi\ \left(\frac{1}{2} \pm jt\right)$

$\mathcal{E}\left(\frac{1}{2} \pm jt\right) = \frac{1}{2}\left[Sin\ \frac{\pi}{2}\ \cos \pi jt \pm \cos\ \frac{\pi}{2}\ Sin\ \pi jt\right]$

$\mathcal{E}\left(\frac{1}{2} \pm jt\right) = \frac{1}{2}[\ \ 1 * \cos \pi jt \pm\ 0\ \ Sin\ \pi jt]$

$\mathcal{E}\left(\frac{1}{2} \pm jt\right) = \frac{1}{2}[\ \cos \pi jt\ ]$

$$\cos(\pi\, t\, j) = 1 - \frac{(j\pi t)^2}{2!} + \frac{(j\pi t)^4}{4!} - \frac{(j\pi t)^6}{6!} + - -$$

$$\mathcal{E}\left(\frac{1}{2} \pm jt\right) = \frac{1}{2}\ (1- \frac{(j\pi\, t)^2}{2!} + \frac{(j\,\pi\, t)^4}{4!} - \frac{(j\pi\, t)^6}{6!} + ---) \quad -- (10)$$

$\mathcal{E} = \zeta$

$$\zeta\left(\frac{1}{2} \pm jt\right) \quad = \frac{1}{2} - \frac{(j\pi\, t)^2}{2*2!} + \frac{(\ j\pi\, t)^4}{2*4!} - \frac{(j\pi\, t)^6}{2*6!} + ---$$

$$\zeta\left(\frac{1}{2} \pm jt\right) = \frac{1}{2} - j^2\left[\frac{(\pi\, t)^2}{2*2!} + \frac{(\ \pi\, t)^4}{2*4!} + \frac{(\pi\, t)^6}{2*6!} + - - -\right]$$

the complex numbers <u>**with**</u> real part (1/2)

This was the proof of genius Riemann Hypothesis

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$\zeta\left(\frac{1}{2} \pm jt\right) = \frac{1}{2}[\ \cos \pi jt\ + jSin\ \pi jt - jSin\ \pi jt]$

$e^{\pi t} = [\ \cos \pi jt\ - jSin\ \pi jt]$

$$\boldsymbol{\zeta\left(\frac{1}{2} \pm jt\right) = \frac{1}{2}[\ e^{\pi t} + jSin\ \pi jt]}$$

<u>**</u>

$\mathcal{E}(S) = \zeta(S) = \cos\ \frac{\pi\,(1-s)}{2}\ \ \cos\frac{\pi\, S}{2} = 0$

$\cos\ \frac{\pi\,(1-s)}{2}\ \ \cos\frac{\pi\, S}{2}\ = 0$ Rad , when S = ±(1,2,3,4,----)

Either $\left(\cos\frac{\pi(1-S)}{2}\right)$ OR $\left(\cos\frac{\pi\, s}{2}\right)$ equals Zero , when compensation of (S) by all integer numbers, we will know with which value the equation equals to zero .

$\zeta 1(S) \equiv \left(\cos\frac{\pi s}{2}\right)$ (Rad) -------(11)

$\zeta 2(S) \equiv \left(\cos\frac{\pi(1-S)}{2}\right)$ (Rad) -------(12)

We will prove the position of all positive, negative numbers and complex numbers in complex circle according to each equation.

5-1) Compensation in the equation No. 11

$\zeta 1(S) \equiv \left(\cos\frac{\pi s}{2}\right)$ (Rad)

Changing from radian to degrees

$\zeta 1(S) \equiv \left(\cos\frac{180\ \pi\ s}{\pi\ \ 2}\right)$

Compensation in the equation for the value

s = 0,4,8,12,-------- ∞(increase + 4)

$\zeta 1(4) = \left(\cos\frac{180\pi\ (4)}{2\ \pi}\right)$ = cos 360 =1

$$\zeta 1(0,4,8,12,---\infty) = 1$$

Compensation in the equation for the value

S = 2,6,10,14,---- ∞(increase +4)

$\zeta 1(2) = \left(\cos\frac{180\pi\ (2)}{2\ \pi}\right)$ = cos 180 = -1

$$\zeta 1(2,6,10,14,---\infty) = -1$$

Compensation in the equation for the value

S=1,5,9,13,---- ∞(increase +4)

$\zeta 1(1) = \left(\cos\frac{180\pi\ (1)}{2\ \pi}\right)$ = cos 90 = 0

$$\zeta 1(1,5,9,13,---\infty) = 0$$

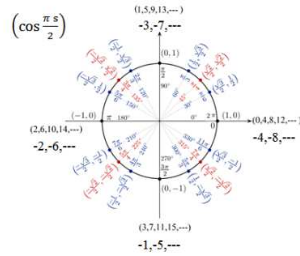
Compensation in the equation for the value

S=3,7,11,15,----- ∞(increase +4)

$\zeta 1(3) = \left(\cos\frac{180\pi\ (3)}{2\ \pi}\right)$=cos 270=0

$$\zeta 1(3,7,11,15,---\infty) = 0$$

Therefore the difference is four,then the result always the same



5-2) Compensation in the equation No. 12

The second proof of Riemann Hypothesis .

$\zeta 2(S) \equiv \left(\cos\frac{\pi(1-S)}{2}\right)$ (Rad)

Changing from radian to degrees

$$\zeta 2(S) \equiv \left(\cos\frac{180}{\pi}\frac{\pi(1-S)}{2}\right)$$

Compensation in the equation for the value S = -3,-7,--∞

$\zeta 2(-3) = \left(\cos\frac{180\pi\,(1-(-3))}{\pi * 2}\right)$ = cos 360 = 1

$\zeta 2(-7) = \left(\cos\frac{180\pi\,(1-(-7))}{2\,\pi}\right)$ = cos 720 = 1

Compensation in the equation for the value S = -1,-5,--∞

$\zeta 2(-1) = \left(\cos\frac{180\pi\,(1-(-1))}{2\,\pi}\right)$ = cos 180 = -1

Compensation in the equation for the value

S = 0,-4,-8,-12,---∞,-2,-6,-10,--- ∞

$\zeta 2(-2) = \left(\cos\frac{180\pi\,(1-(-2))}{2\,\pi}\right)$ = cos 270 = 0

$\zeta 2(-4) = \left(\cos\frac{180\pi\,(1-(-4))}{2\,\pi}\right)$ = cos 450 = 0

Therefore the difference is four, then the result always the same

- ζ(s) has "trivial" zeros at the negative even integers {-2, -4, -6, ...}.