

The Nikolian Disproof of the Riemann Hypothesis: Objective Contradiction Full Proof

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April 2, 2021

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..Abstract

In this paper I will be proving that $\text{Re}(z)$ being equal to more than one is the convergent half-plane beyond $s > 1$. That of which is the pole or singularity of the whole functional system. I will be providing a counter-example and a forth-wright approach to the Riemann Hypothesis, Riemann Zeta Function. In the beginning I assumed that the calculations from these unreliable third-party sources of calculation were just normal. But then I was able to finally crack the problem of inserting the Riemann Zeta Function into an image of the formula.

..Chapter One

Below is a list of plain-text programmatic coded formulas which can be used on an advanced calculator.

$\text{sum}((1/n^z)), n, 1, \text{inf})=0=\text{zeta}(-2)=\text{zeta}(-4)=\text{zeta}(z)$

$\zeta(s) \neq \{1\}$ Note: This would be considered the pole or singularity.

$\zeta(s) = \text{sum}_{(k=1)}^{\infty} k^{-s}=0$

$\text{Zeta}[s] == \text{Sum}[k^{-s}, \{k, 1, \text{Infinity}\}] /; \text{Re}[s] > 1$

[1.1]

$$\sum_{n=1}^{\infty} \frac{1}{n^s} = \zeta(s)$$

Note: $\zeta(s) = \zeta(z)$ and $\zeta(s) = \zeta(a + bi)$ while $a + bi \equiv x + yi$

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Thereafter, knowing [1.1], it is safe to assume the new solution and I will give it a proof.

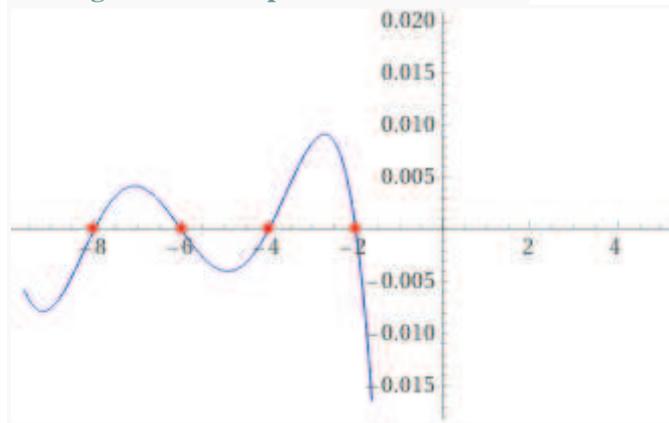
[1.2]

$$\sum_{n=1}^{\infty} \frac{1}{n^s} = \zeta(s) \text{ when } \operatorname{Re}(s) > 1 \vee z = -2n \vee z = p_n \text{ while } \{\{\forall x, \forall y, \forall \operatorname{Re}(z) > 1, z = -2n, z = p_n\} \in R\}$$

No matter how many times you insert the exact RZF formula into the WolframAlpha calculator, you will always end up for $\zeta(s) = 0$ when $\operatorname{Re}(s) > 1$ and $s \neq \{1\}$.

Now there are four whole representations for the solution of the RZF.

Fig.1 Displays the Riemann Zeta Function on a graph. It appears that the left side is the most prominent of the entire graph. Seems that any negative-even zeroes below 1 are trivial while the negative-odd convergences have a pattern of some-sort.



The first three representations all have the property of $\operatorname{Re}(s) > 1$.

[1.3], [1.4], [1.5]

$$\zeta(s) = \sum_{k=1}^{\infty} k^{-s}, \zeta(s) = \frac{2^s \sum_{k=0}^{\infty} (1+2k)^{-s}}{-1+2^s}, \zeta(s) = e^{\sum_{k=1}^{\infty} P(k s)/k}$$

As for the fourth solution it is a solution to $P(z)$ which gives the most generalized and an original Prime Zeta Function: {PZF}.

[1.6]

$$\zeta(s) = \frac{\sum_{k=0}^n \frac{(-1)^k (1+k)^{1-s} \binom{n}{k}}{1+n}}{-1+s} \text{ when } \binom{n}{m} \text{ is the binomial coefficient.}$$

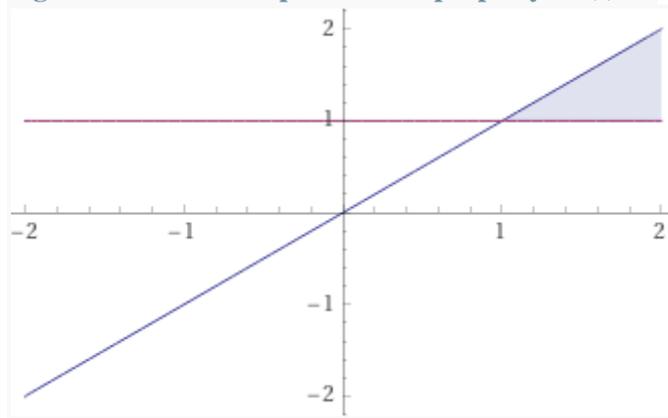
..Chapter 2

Proving that $\operatorname{Re}(s)$, the real part of s or z , is not equal to $\frac{1}{2}$ and has no non-trivial zeroes on the so-called critical strip at all. The reason is because there are no more zeroes to begin with. The only zeroes that exist are the negative-even integers. As you can see in Fig. 1 the slope of the line does not intercept the real x-axis past $1 > \operatorname{Re}(-2) = \operatorname{Re}(-4)$, though it does

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intercept the imaginary axis at a certain point. Of what that point is, whether either trivial or non-trivial, yet is is trivial in this case, since it is a trivial stream of intercepts, and intercepts as far as I'm concerned, are only trivial for $z = -2n$ is concerned, they are the only zeroes. I actually have considered what was trivial and what wasn't trivial and have come to the conclusion that the convergent values of $\{z=s\}$ when $Re(s) > 1$ are actually also the trivial values. Not only is there prominence in the zeroes of the negative even integers, but also only in the function for primes. As coming up with a Prime Zeta Function PZF was the most significant set of elements.

Fig. 2 This is the half-plane of the property $Re(s) > 1$.



Alternate form assuming s is real:

$$\zeta(0.5 + 21.022040 i) = 0$$

$\zeta(s)$ is the Riemann zeta function

i is the imaginary unit

Result:

False

Input:

total	$\left\{ \frac{1}{n^{0.5+y\sqrt{-1}}}, n, 1, \infty \right\}$	= 0
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Result:

False

As you can see no matter what value for $x + iy = s \mid 0.5 + iy$ is convergent and does not limit to zero.

Input:

$$\{\zeta(0.5 + y\sqrt{-1}), y = 0, x + iy = z\}$$

$\zeta(s)$ is the Riemann zeta function

i is the imaginary unit

Result:

$$\{\zeta(iy + 0.5), y = 0, x + iy = z\}$$

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Substitution:

$$\zeta(i y + 0.5) \approx -1.46035$$

Output interpretation:

$$\zeta(0.5 + 21.022040 i) = 0$$

$\zeta(s)$ is the Riemann zeta function

i is the imaginary unit

Result:

False

As you can see no matter what value for y , for $\forall y + 1/2 \lim_{s \rightarrow 0} \neq 0$. Thus, the critical strip does not exist. It's a contradiction.

..Chapter Three "Data"

Data for $\zeta(s) = - \text{odd} \in Z$:

sum((1/n^-1)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-1) s \rightarrow 0 = -1/12$$

sum((1/n^-3)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-3) s \rightarrow 0 = 1/120$$

sum((1/n^-5)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-5) s \rightarrow 0 = -1/252$$

sum((1/n^-7)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-7) s \rightarrow 0 = 1/240$$

sum((1/n^-9)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-9) s \rightarrow 0 = -1/132$$

sum((1/n^-11)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-11) s \rightarrow 0 = 691/32760$$

sum((1/n^-13)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-13) s \rightarrow 0 = -1/12$$

sum((1/n^-15)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-15) s \rightarrow 0 = 3617/8160$$

sum((1/n^-17)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-17) s \rightarrow 0 = -43867/14364$$

sum((1/n^-19)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-19) s \rightarrow 0 = 174611/6600$$

sum((1/n^-21)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-21) s \rightarrow 0 = -77683/276$$

sum((1/n^-23)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-23) s \rightarrow 0 = 236364091/65520$$

sum((1/n^-25)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-25) s \rightarrow 0 = -657931/12$$

sum((1/n^-27)), n, 1, inf) Dirichlet regularization

$$\lim(\zeta(-27) s \rightarrow 0 = 3392780147$$

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The only connection between these values that I found was the fact that $-1/12$ came up twice. The larger for $-s$, the larger it is either negatively or positively. Which if the sum of all sums given if it was a set $S\{\forall(-s)\}$ would converge to infinity. Though if there is a chance to determine any sort of formula it would be in the odd $S\{\forall(-s)\}$. What is the relationship between $\zeta(-1)$ and $\zeta(-13)$ and why are they equal with their Dirichlet Regularization limits? Regardless, it seems for $Re(s) < 0 < 1$ that any value between 0 and 1 will converge to a solution other than zero. Meaning there are no zeroes on the critical strip of $\zeta(.5 + iy) \neq 0$. This disproves the critical strip and proves that the true critical curvature is the line of less than zero. $Re(s) < 0$ while odd $Re(s) < 0$ converge $\in Q$ while even $Re(s) < 0$ are the only zeroes. While $\forall Re(s) < 0 \lim_{s \rightarrow p_n} = P$

..Conclusion

So not only does $s = -2n \mid n \geq 1$ but also $s = p_n$, "The non-trivial n th zero of the Riemann Zeta Function, RZF." This proves that other than $s = -2n$ there is only one non-trivial zero of the RZF and that is the very last prime number in existence. Knowing exactly what the number is equal to does not indignify the fact that it is the only non-trivial zero of $\zeta(s) = 0$. It seems that Bernhard Riemann contradicted himself thinking the critical strip of $Re(s) = 1/2$ contained all of the non-trivial zeroes, but in fact, the only obvious non-trivial zero was p_n , or the last prime number. Which makes absolute sense if you insert a large value that is finite and prime in the Prime Zeta Function [PZF] that it would result in a non-trivial zero.

..Sources

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