Godelian Encryption and Goldbach's Conjecture

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Albuquerque, NM, United States of America
p.roses.mb@gmail.com

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Abstract

This paper outlines an idea for an unbreakable encryption-decryption technology within it's entitled difference of ***quotient*** of (a) methodology suited to and situated on modular relationships. Based on a Godelian concept of emptiness, the dependency on the Goldbach Conjecture is a stated to which a proof is preliminarily afforded or dis-afforded within the mathematical structure of emptiness of *retractile* or *reductive* proof's; to the advantage of the pre-text of leverage of the stochasticity of a variety of homological err and congruence. The co-terminal relation of two modular relations for in that of power to exponentially founded Fundamental Theorem of Algebraic Exponent's advantages the shrinking of an informational capacity requirement to the leverage of the pre-text of diminishment of algebraic and geometric (ray) computational exponents (of-a-certain) logarithmic compressibility on a conventional binary machine. What seems to be 'stripped' or forgotten is the combinatorial re-assortment of a 'dictionary' on that of the prime-modulo enumeration in Godelian pre-scriptive prowess. What is not lost or 'spent' is the afforded gesture that a 'hidden' and 'uncontainable' lamentation at number-series-reductive lemma structure cannot-be-taught; but, must be-learned. The essential idea conjectured at is that if there does not exist a general solution to Goldbach's Conjecture there would exist a solution to Fermat's Last Theorem, and by a-contractual contradiction since it is known that Fermat's Last Theorem has no solution via preliminary works of other's [Et. Al.], Goldbach's Conjecture must be certain in it's derviational certainty & true (within a certain understated context) herein to an existence proof via Godelian emptiness. The demonstrative ideal is to that of the geometric quotient that of a radical free nomenative declaration; that -statedly- that of **one ray** by contractual reduction is reducible from a two (**2**) dimensional enfolding to a radical free (**1**) and (**0**) dimensional ever diminishing exponent by any third (**3**) bi-inclinic ray. From here, an algorithm is deduced that is generative of an unbreakable encryption methodology (todo's); providing the root clause of data supremacy and data encryption; standardization of compactual relations of *an-infinitive nature* and of it's understated recombinatorial addressibility & assembly. Compactual binary space partition(s) are therefore reducible to at most (**5**) elements; (to be depicted as earth, air, fire, water, and wood) to which is the free data right of a simplicially connected/disconnected and (**re**)-establish(**-able**)ed flow of/and regularization concept layer analogous to free radical prime bases of geometrically induced quasilinear relations of **5**th order.

Necessary Preliminaries

Goldbach's Conjecture states that **every** even (e) can be expressed as a sum of two primes with $e \geq 6$ (to be understood as the number six); a number once-off the quotient of 20; for in light of two and three half-in intimating no connective to their subsidiary power and modular relation (an alternative number-theoretic proof).

Fermat's Last Theorem states that (as a hypothesis) there are no solutions in integers to the following equation:

$$x^n + y^n = z^n \tag{1}$$

Infamously printed and re-printed on shirts and diplomas; textbooks; and menus... For $n \geq 3$ and n a prime (as a subsidiary clause) it is sufficient and plausible ($\&$ therefore) general enough to illustrate that there are no free quotient bases to what may be considered as two (or or as three) numbers to which a number generative to a power may satisfy this relation in the range of the surrounding context of algebraic numbers for that of the integers. Due to the Fundamental Theorem of Algebra; a consequence holds true: no two numbers separated by two which are of a counting (or therefore of a carry) are one-(**un**-)separated. Therefore; to a reductive lemma; there can be no numbers in the integer sequence Z of which satisfy the 'Master Theorem' of this paper; and for which a modular and power equivalence inhibits a property of their disinclusion or prohibition of inclusion of three compactual definite clauses; that of additivity and subtraction to which a solution is known.

This is a consequence of the one to which a counting by one must raise the distance between the metricity of the alternative addition (in the co-adjoint measure) less than a quotient; hence by the triangle inequality; there are no two numbers larger than three which will satisfy that of a diminishing proportion to the complete difference in the right hand side and one of the prefactors to the left. No solution can therefore be afforded to Fermat's Last Theorem. Alternatively; that of a quotient geometric base in modular arithmetic for all primes is separated by *at-least* two or more for that of all primes greater than three; to which no x or y (non-exclusively) can be found to agree with a difference in that of a modular reduction. In power and modular relation it is therefore uncontentious to a theoretic 'mitosis' of numbers reasoned herein in relation to the Fundamental Theorem of Algebra $\&$ that there be an equivalence of number 'details' in that of the similitude of the right hand side under loss of one of the factors of the right hand side from the left to *a subtraction* in reciprocity to addition vis-a-via the right hand side. Hence; initially, our formation is that: **no radical free basis exists** to that which would impute or implicate that of a modular equivalence of these two sides of (Fermat's Last Theorem) in that of primes. Hence natural numbers do not afford any solution to Fermat's Last Theorem; $\&$ this theorem is true. There are no two (***mutual***) solutions in n greater or equal to three (**3**); for the same reason that no (**2**) primes are unseparated by *less* than two (**2**); afforded by the fact that for any x y or z greater than or equal to three (**3**) *a modular equivalence is prohibited.*

The equation:

$$p^m + q^n = l^n \tag{2}$$

Pell's equation, however possesses modular in-equivalence in power and base in odd $\&$ even; therefore an infinity of potential solutions in the natural numbers. We will find this fact striking in retrospect when we consider $m \pm 1$ with the other numbers *hypothetically* fixed.

Goldbach's Conjecture

Given that an even is expressible as $e = 2k$ ***with*** k even or odd, the number e is decomposable into two (***new***) numbers: $k - r$ and $k + r$, where $2k$ is as a given equivalent to e, and $a = k - r$ and $b = k + r$ are numbers given; equally positive and negative with respect to the residual of $\pm r$ modulo k.

We now arrive at the major consequence which must be shown to prove Goldbach's Conjecture:

Conjecture: *What must be essentially shown is that two numbers $a = k + r$ and $b = k - r$ modularly implicate the existence of two primes c and d to which sum to e. It is reasoned that the 'hint' is that by contradiction,* ***if they did not exist****, there would be a solution to Fermat's Last Theorem.* This is the connection to Fermat's Last Theorem.

Reasoning

Let $a = k+r$ and $b = k-r$ be the numbers under summation to an even, for clearly $k+r+k-r = 2k = e$. Now, given there is no solution, let $c = a^n$ and $d = b^n$ be two new numbers taken to the same power, a prime n. Note that $c + d = (k + r)^n + (k - r)^n \equiv 2k = e$ mod n for all primes n and numbers (k, r), by $(k \pm r)^n - k \mp r = 0$ mod n for all primes n and all numbers (k, r, e) since the contractual ***alternation*** of un-individuated combinations sum to a residual algebraically of remainder 0 comparative to $2k \pm 2r$. Now it is understood from before that c and d added are equivalent to an even e mod n, a prime. Furthermore the quantity $c + d = (k + r)^n + (k - r)^n \equiv 0$ mod e for all (r, n, e) by the this alternating equal and opposite modulo residual of $\pm r$ on both terms (to which the number fits a congruence in it's 'end term's - Gaussian distributed via the binomial theorem to $e^- = 2k \pm 2r$). Now it is understood that c and d added equal 0 mod k. One could critique that e and e^- are un-necessitated; but indeed we have **two** strict in-equalities demanding of an answer; therefore we require the ambiguity of $2k \pm 2r$ to be stated declaratively. As a result we have two conditions, for which a statement suffices to prove Goldbach's Conjecture.

If there were no two primes for the numbers a **and** b then for some sets of (a, b) mod n these numbers would have an equivalent composite base ***expression*** and under summation would be equivalent to 0 under mod n; the result of which is a prime equivalence by letting $z^n = m$ with m a prime and admitting a solution to Fermat's Last Theorem. Only with these as prime numbers (a, b) is it true that for all n they will be universally equivalent to the even e modulo n when reasoned that e^- holds (**2**) inequalities - since there are two given independent restrictions on their constraints and the ***system*** is exactly-determined. Otherwise; Fermat's Last Theorem fails to hold true as possessive of no solution. Therefore as far as qualitates that of structural composite numbers of even and odd ***with an overlapping integer***; there must be an even to a **and** b. This is provable as otherwise we can choose a number z to a power n, and a solution to Fermat's Last Theorem appears with equation 1. Additionally for the second modular equivalence to 0 to hold true, there must be a prime representation for a and b. **For if there were no prime representation**, there would be a composite structure to c and d (herein taken independently established) as not primes wherein with mod k, ***an odd***, and certain representations would be composite but have no equivalency to 0; therefore we could take $a = k + r + t$ and $b = k - r \pm t$ and produce a solution to Fermat's Last Theorem; as up-to modular and power equivalence the Fundamental Theorem of Algebra would be satisfied.

Finally, by the Fundamental Theorem of Algebra, the modular equivalency for all n implies that this extends to all composite numbers (forin here we have included the composite's with an overlapping set of power and modular integers and those non-overlapping), and Fermat's Last Theorem applies to all numbers. Hence the prime prime decomposition of an even e is guaranteed *when it is considered it is the only case that remains.* This may remain as evidence to the contradiction however only suffices to impute that there is another direction in which to take an *actual* existence proof - however it is plausible from what we know of other additional areas of mathematics.

Declaration

Master Theorem: *The relationship of evens e to primes n is bi-directional in that the summation of any two primes to any two powers is modularly equivalent to an even f modulo prime m as powers, and moduarly equivalent to zero* (**0**) *modulo this even e.*

To that of what otherwise is a compositely shared prime prime enumerability or in return under composition of an algebraic factoring of composite odd's; that of either of the two above conditions impose by that of Fermat's Little Theorm that of a relation of either inclusion to prime residual modulo 0 to which the odd is displaced by one 1 when equation 2 is taken into consideration. For inclusively the relation of but their structure proves to that of a 0 or $2k$ an even relation with pure composites of either given restriction on composites; to which k in that of the relation is but displaced by that of 1. Hence; the delimitation of that of the residual r under either relation to an odd remainder of a or b is the clue that when $m \pm 1$ is taken to exist; *there exist exactly two* (**2**) *prime numbers to which add to the even e for the reason that Pell's equation holds an infinity of solutions when m is displaced by 1 but **not** when $m = n$ for there are no solutions to Fermat's Last Theorem.* Therefore the return of that of one even and one odd in (m, n); a remainder in mod n is *the* signature of displacement by one; and by that of reduction of alternation of $\pm r$ on that of odd & even; the relation of that of the above reciprocity is that an enumeration of delimitation as expression of the disinclusion of a displacement upon equation (2) *is the given that there is a solution to Goldbach's Conjecture*:

$$a + b = e \qquad \forall \qquad e \qquad (a, b) \in P \tag{3}$$

In alternative terms; that of the inclusion of a prime base n admits even and odd m to which p, q, and l exist; and to which in either relation under modular equivalence by one; the original 0 and $2k = e$ hold capacity for that of two prime's under reduction to the statement (2). Pell's equation therefore yields a displacement to that of the *non-exclusive* relation of inclusion of one differential algebraic 'step' on that of successive generations of modular base and power enumeration to which in either that of k or r there is a prime in *both* (vis-a-via the earlier reasoning of: *'if there were no prime representation'*) illustrated. For then in odd; we locably find that under relation of a base even a displacement of k with $k \pm r$; the 'odd' relation remains that of a modular equivalence under which substitution in Fermat's Little Theorem produces from Pell's equation (**2**) solutions in primes given that the prime enumerability of evens unto their relation remains closed to even or odd and an odd minus an odd is even; to which *as there is no general solution to Pell's equation in $m \pm 1$ there-must-be exactly one solution in prime's in addition to an even $e \geq 6$ with m fixed. Therefore Goldbach's Conjecture is true, as statement* (**3**) *and* (**2**) contain at least two solutions *in relation to every prime non-excepting* (**2**).

Therefore all communsurate odd relations include and cover all evens for all subsidiary composite even's, composite odd's, and prime number enumerations when it is assumed that **two** prime relations prime adjacency sum to any given even. Goldbach's conjecture is therefore proven with the positivist's existence necessitated; and demonstrably; the necessity of that of there being two primes is identified as the contrapositive of Fermat's Last Theorem; it's conjecture the extension to a graph of the nature of De'Abraham De'moivre; that by inclusion of the strong analytical proofs of the Fermat's Little Theorm and the Fundamental Theorem of Algebra ***this is a Godelian Proof***; to which is outside the given Peano Axiom's of number theortic truth valuation. We can see that essentially there is no solution to Fermat's Last Theorem precisely because there is always a solution to Goldbach's Conjecture and vice versa, for the reason that if the above statement does not hold true, either composite structures or non prime even numbers are present which misconstrue the exact equivalence & inequivalence relation of these as theorems. Therefore, if a solution to Fermat's Last Theorem exists, a solution to Goldbach's Conjecture does not exist *for a certain integer* q *and may remain hidden*, and by contradiction, since no solution to Fermat's Last Theorem exists, there is always a solution to Goldbach's Conjecture and as the above bound is set by the n on k as ≥ 3 by ruling out mutual evens and in summation to an even. The solution is that: for all evens, $e \geq 3+3=6$ there exists a unique prime-prime reduction under summation. Hence this statement produces the consequence that primes so existing ensure a solution to Goldbach's Conjecture, and which is true as there is an exact fit to 'no lesser than two and no greater than three', because as turned around the existence of a prime ensure's the existence of an even. All other representations are modularly equivalent to another set of numbers as primes under Pell's equation when $m^{-} \neq m \pm 1$; therefore any even e is expressible as a pair of primes. For if there were no prime prime representation a modulo condition would admit a solution to (**1**).

Godelian Encryption

A Godelian number sequence is a number for instance such as:

$$N = 2^p 3^q 5^r \tag{4}$$

The essential idea this encryption amounts to is:

Essential Idea: *Given the numbers* (p, q, r) *is it possible to design an encryption method such that no modular decomposition will render any document or system of communications undecryptable given the lack of factorability of the three numbers* (p, q, r)*?*

Since Godel's Theorem means that certain arthimetic truths are neither provable as True nor False, and are hence undecidable, and that this is true in context because every axiomatic system contains these.

To devise this encryption program, consider as a given the primes (p, q, r) as generative of the additional primes:

$$P = p + q - r \qquad Q = q + r - p \qquad R = r + p - q \tag{5}$$

If these are in turn prime, it must be noted first of all that per Fermat's Little Theorem:

$$a^p - a \equiv 0 \qquad modulo \qquad p \tag{6}$$

Where p is a prime.

From this consider the mapping $(\{p, q, r, n\} \rightarrow \{P, Q, R, n\})$:

$$C_n^{(p,q,r)} \qquad mod \qquad (P, Q, R) \rightarrow C_n^* \tag{7}$$

This mapping is invertable because via properties of Goldbach's Conjecture the primes P are identified with a *group*. Because the relationship between the keys and the sequence of (C_n) is not decipherable by exterior means via a consequent *non-commutativity*, it is as a given a relationship that the deciphering by primitive means is as unpredictable as the sequence of primes themselves. To that of what is aforementionedly a limitation of the regress we impose from otherwise that of non-exclusive exceptional inclusion; the mean of 1 otherwise inclusive number theoretic subset of relations; determines that of a graph notion to 'coloring' $\&$ combinatoric rules remains hidden by imposition of limitation of co-extensibility of the free relation of exceptionable enumeration under separation of the operations of algebra. This was the exceptional inclusion of the capability of re-arrangement of Godelian emptiness.

For instance consider that:

$$a^p a^q = a^{p+q} \tag{8}$$

As these are separately not factorable and the sequence of modular relationships is unpredictable as the primes are, neither is their product as a^p and a^q, therefore p and q added or apart are unpredictable in their modular inverse *under group theoretic contrasts.* Then, since the inverse requires the third of any set of primes for two, it is **impossible to decipher the key or engram** by the uniqueness of the prime mappings and the lack of divisibility in discovering a pair from one prime or a prime from two. The modular relationship is unique so it a document is decipherable by the proper encryption key's, but is hidden *in the structure of evaluation and combinatorics of a singular machine state*, therefore, in the lack of divisibility of the three primes as a mutual set for any one in comparison to any other two *un-locabilities.* As a result there is no algebraic way to discover the primes from a set of documents in relation to each other with any computational analysis or mathematical theory **in existence**. Note that Goldbach's conjecture can produce a prime prime relation for the auxiliary primes and evens. However, Goldbach's conjecture cannot be automated to discover a solution to this encryption *for no computer operationally situates through unpredictability alone two steps ahead*, and as a result this encryption is in general unbreakable. In addition, the order of the polynomial is at least with '*one-guess*' still a quintic, and in general has no common zero or solution for which an exact solution may be found in *Galois Theory.*

To note is that this process can be automated as an encryption and decryption based technology when there is co-extensibility of the bit-wide margin of the memory space to a channel or power; for that of what is incorporative of a stated residual quotient generated with each byte of **9** word legth is diminished to **7** and in that of **3** bit-wise width for then in an unseparated interstitial 2 modulo to the 7th power; therefore that of 128 refounded on a divisor of 3 plus 1 to which is 32 bit wide depth in 0 $\&$ 1 and 3 *as* (**5**) unseparated from 9 minus 7 $\&$ 3 to which is two heirarchical self-similar power and modulo statements of the Master Theorem. Any encryption based on this heirarchical re-assortment and dis-assortment pattern is thereforeas unbreakable as: **That as the fact that primes are not divisible by each other**. So, any ideal simplicial unitary gate system holds an identity to which is that a quotient of a radical normative valuation is it's congruence to two statements; one a connotative reflexive summative base rational and the other an indicated free decomposition into subsidiary orientably free exponent sources in base valuation. A number therefore suits a free radical idempotent reflexive inverse addition law over a manifold algebraic isolinear relation of unseparated quotient $\&$ super-valued numberless identity with it's base and power expression.

Conclusion

The Goldbach Conjecture can therefore be summarized as the modular arithmetic fitting inside the modular arithmetic; to which is 2 within 2. This is reducible from the lemma that equivalence of modular bases is assurred given there is a prime notational system of decomposition. The reduction is that two bases reduce alone from that of what is a prime within one. The system is therefore two radical to what is freely unheld of divisional quotient; to which there exists by it's element a factoring from what is a number by two; an even. Therefore even's reduce to exactly two primes; since either solution in '**m**' is identical (and even) to a homogeneous sum in integer's; to which there are only (1) and the number itself within an expression; the true identity of which is noticed for in reason that Pell's equation remains to contain exactly one solution only when either is a multiple of 2.

Therefore as $2 = 2$ under either reproducible iteration of summation; a solution is proven as valid; and sufficient for the additional reason (of necessity) that therefore as two exponent's agree; a radical Pell's solution exists (as this is known); $\&$ vis-a-via that:

1.) *There is an identity that there is no solution for what is* $m = n$.

2.) *There is exactly one solution when either is a multiple of* 2 *since the equation is identical with itself.*

3.) *That of* $m \pm 1$ *for all* $\mathbf{m}$ *prime, is even.*

For in light of consideration of the following; it is directly provable that any two prime's suffice for what is an equivalent even number. As to consider; by the mere impression of that of Fermat's Last Theorem; that unseparatedly taking *either* one of the x^n or y^n to a bearing of subtraction from z^n it is by the abject *missing* quotient (2) on that of what is a held separation of ≥ 1 that none; is the answer to that of prohibition of license to solution. For then in light of what is considered of the separation *under modulo proficiency*; that of at least the denomination is **1** comparative to an aliasing of their given contrast; then for what is a remainder; that of the indication of a suspect exceptionable clause to (2) two solutions; that remarkably there is at least 1 and 1 comparatively illustrated prime in the series of numbers within addition to an even e.

So; it is that with as for instance a stack of dominoes; however they are tilted and replaced in a *row* that the first assembly in *either* order will knock down all; but that of partial way through will only violate half. But for that of one prior that of occassion to a difference with numbers; that of a *secondary* dominoe will knock down within-addition a *first* (number-dominoes) that of **all** in dissimilarity to that of physically innate reality. This juxtapositioning is remarkable; for it is merely akin to an *illusion* broken.

Extension to Riemann Zeta Hypothesis

For then in what is reciprocal; that of two strips; one of which is the $1/2$ projection; and one of which is an annulus; the former a Moebius strip; when connected or disconnected to what are two imputations; that of exchange under a question:

Hypothesis: *It is the second professor to depart the room and exit if this is also the first to enter; otherwise it is the former alternative person.*

Problem: *Two professor's enter a room; and are beyond observation; to which then via introductions; one writes an equation or the other does; then one of the two erase the problem and leave the room after a sincere discussion. Who was the professor to erase the chalk?*

For in that of numbers; to what is imputed as to that of the above dominoes they come in two kinds with numbers; 'Transcripted,' and 'Detailed;' as to a regular dominoe of physical reality; and that of unordinary *number-dominoes* of which correlate with a *Moebius strip*. The difference is the same as the equation unwritten or written; but obviously there is a difference in the professor's; for they are individuals; to which human being's are. It is therefore the final word of mathematics that when thought of:

$$(\sigma_1 - 1)(\sigma_1 - 2)(\sigma_1 - 3)(\sigma_1 - 5)...\infty = F[z] \tag{9}$$

Contains even and odd relations of which are a sequence of dominoes; of ordinary and unordinary; to which are therefore freely the unheld room and it's chalkboard. The insistance therefore hold's that **their average** is $1/2$ to what is even divided by odd; to which is the imputation of the final consolidation of Goldbach's Conjecture; notably:

$$2 \quad \epsilon \quad G.C. \quad \forall \quad \frac{1}{2} \quad \epsilon \quad R.Z. \tag{10}$$

For the quotient free radical space of rational to irrational numbers is of a cardinality $\aleph_0$ comparative to $\aleph_1$. This connective is that were one to combine or separate the two hands of a dial on that of the *numbers*; a Moebius Strip and an Annulus would be combined or separated; to what is a top-or-bottom up teir folded relation of collapseability. Therefore all roots of the exceptionable point's of the Riemann Zeta function have a real part of $\frac{1}{2}$.

For in dear; what is a necessity of dearness to a scolding can be reprimanded to it's counterable fellow; for in a forewarned difference of apredictive entrapment by enquement of two deficit relations; theft; to what is then heretical under reversability of sense for in one half-space to another; therefore of (non')sense; the indication at (@) two; is to notice of up-peer what is intimated by ontological befitment of barrierless opening to ardour.

That of befallment of non-preventability of theft but therefore by two from a top-teir; and one from it's then bottom relation; the accounting of which under prolate dissonance accords with via to topological execution of order the line-like apogetic minimal path of least resistance; therefore dissimilitudes in development to priority in executable limitation to re-stochasticity of reversable sense by difference of retromorphic intimation of their criminatory intention; and pure accounting by cross dissimilitudes of all known evidentiary items of offense to what is preparatory investigative tool of progression to standard law teir case and subsidiary structural detail.

Therefore it is that a sorting of item's to which are commutative or non-commutative among 2 the space is a quotient space of the line $\frac{1}{2}$; the median of what is included of a relation of their corresponding zero's; when reduced from ∞. That of a clear difference between the professors is outlined; they cannot hide theft of an idea or notion; and it is to exact correspondence that this case is answerable that the Riemann Zeta Hypothesis is true to an abject point; the **true** infinity!

Solute

When it is justified that the equation (2), ***Pell's Equation***, determines the 'static' relation of a modular orbit, the truth of Fermat(s) Last Theorem becomes immediately the surjective onto, or into (injective) premise of a dual-hypothetical at that of number and number quotient and modulo series. Thus that of Pell's Equation in a derivative sense becomes an elliptic 'separation' of variant for *topological* setting on that of period and period revolution.

Namely put, Quadratic Reciprocity guarantees a co-factor of eliminated juxtaposition at that of historiological import of at least one included individual among two-exit(s); thus of the unknowable and knowable differences of inheritance of Lawful Standard and consequent body of evidence on individuals for in scientific or mathematics theft.

Getting back to the central problem, the Goldbach Conjecture is resolved by that of examination of the equation:

$$a^n - 1 = d \qquad mod \qquad 2 \tag{11}$$

When it is assumed that the relationship of n prime, we have that of a remainder of $a \pm 1$, thus that a prime has an infinite number of non-composite relationships per the modulo relationship of that of Pell's Equation cast in the light of Fermat's Equation, two primes corresponding to each even. Thus that of each even composite decomposes per a period-period-period relationship to that of a certain relationship which 'leads' and one which 'follows'.

That the modulo relationship is prime in d is then that of a number for which one number is considered 'down' and 'up'; namely that two-numbers in a consequative relationship encode of one and another with that of for-which both are ± 1 from some a, with a co-prime in relation to that of n, of which this is the expression.

Thus that of two numbers for which are understood to be solutions to *Pell's Equation* modulo separated from an even and non-composite are two numbers apart from an even. Thus it is in fact that two and exactly two numbers (for the chain of evidence from FE to PE to QR) are prime and sum to an even for the reason that this is always ± 1 from an even.

Thus, even(s), and odd(s), in being two-specific (2') as with the modular equation above, imply there are always at least two such primes which sum to an even for all even's ($\geq 3 + 3 = 6$).

That of any equation is therefore related to another, a form of duality, and any three periods register a unique trace formula or consequative quotient(s) between formulas of equations. This is nothing but the separation into a top right and bottom left given the Cantor Slash argument on Rationals.

Thus that of elliptic rational points may be used to projectively map equations to equations, which is the expression of prime uniqueness via projection.

Thus projective identities of the Riemann Zeta function hold as to that of a series decomposition of part of one number analytically comparative to another number, the unique key and registerable safe of relation of numbers under measure to numbers.

This 'secret' of hidden relationships is valid, and thus hidden from inspection by the existence of each-of third number's for which are taken as-yet-so as to impute future kernel-asymptotics, thus the generation of a 'transcendent' relationship of inheritance consistent with Picard's Lemma and Ramsey's Theorem situated at the point of agreement and convergence in computation and mathematics.

Closed Finality

The given consideration of a solution in **FLT** of Quadratic Reciprocity, **(a knowable* ***Seive*** *of prime foundational Quadratic Equations in prime algebraic quotients)*, render(s) the given preclusion of a solute to **FLT** as to-that of a solution in prime basis to the modular *Chinese Remainder Theorem* correspondent with this $*$Seive. Thus the justification in that of prime-prime basis to the **PE** (Pell's Equation), considerately decomposes the remainder-difference unto a net-net congruence in the additional **GC** theorem.

Therefore that there *exists a prime-prime numerical decompositional sum-and-addendum, it proves sufficient and necessary that there is a **dual* solution in the basis of prime and prime overlap of modulo and residual, upon *Fermat's Little Theorem.* That this closes the matter entirely, we have explicated that it will not - accordantly - matter than the prime prime basis may consider primes such that there is a sum-and-addendum greater than $\geq$ or less than $\leq$ the divisor modulo, for that of the quadratic seive is bounded by:

$$\sigma_r \leq \rho_{pq} \tag{12}$$

In that of any reliable quotient-basis. This suffices to prove the statement that Goldbach's Conjecture is true. Then that:

$$\upsilon : \sigma_r \leq \sqrt{\rho_{pq}^2 - \sigma_r^2} \tag{13}$$

For that of $3 + 3 = 2\rho_{pq} = 6$...

Thus that the group of primes are closed under surjection from that of the 'onto' even's, is a statement of the standard deviation, that it's *Kurtosis-layer* is below a threshold of binary digital aliasing, the proof of a data-protected document.

Addendum

The standard polynomial, for what is a quarter-resonance, diminishes *but-excepting, that of a quadratic upon an exponential-Guassian to linear-time in that of second harmonic, and so on with the *Kutosis-layer*; as we describe it here. Thus, - that of the polynomial-addendum diminishes sub-linear for that of the first invariant set, upon crossing-points. That the diminished rate-addendum of it's assortment will terminate in an elliptic set of pole conditions is then a known for in a radical-basis. That instead of a diminished set, that of the above-acquity amount(s) to the following:

$$\sigma_r \leq \frac{1}{2}\rho_{pq} \qquad \textit{In Equivalent Power's} \tag{14}$$

Then: for in the least squares of it's additional lemma. Thus that the elliptic filter and 'above' possess that of alias properties of which are 'squeezed' from the radical-spline of a Berzoit-Curve. That the depicted formation of an alias is then it's rate-addendum, for in a digitization-filter of certain natures of rendering, while, not for other's. Thus, the radical-spline of a then '*actual*' image and depiction is a reduction in $\frac{3}{8}$ for in digitized-domain. This represents an identical form. Thus, that of eight (**8**) and above, for the trivial truth of seven (**7**) produce what is knowable for in that of reconstructive formation through a hologram, *when witnessed from different angles.*

Thus, the prime modulo resonance occur(s) within the vicinity of $\frac{2}{7}$, for in aliasing-power. That of a division sum must therefore occur to the eigth power of *this as* $\frac{256}{5764801} \sim .00004440743$ or, about four thousandths of a percentage, the strict qualitative accounting for primes of which are separated less than (6 ± 2). Thus, as it were, Riemann-Zeta is true for in the formative guesswork of a three dimensional extrapolative domain to 6 ± 2 on that of $\pm$. It is therefore *True*.

Therefore from which is *power* an-eight (**8**); that of $\frac{2}{7}$ in reduced-*Kernel* relate to that of a division in modulo (**2**) per-seven, lower and higher. Therefore via a verbatim-squeeze-theorem, - that of $2 \pm 1 \pm 7$ relate to the division in-either of a threshold half. This is sufficient to lay all prime solutions (of the non-trivial $\frac{1}{2}$) into a layer, for the next-adjacency from the above qualitative limit is **4**; that of a power to which is in-excess of ± 3 on 7 and $10 - 2 = 8$. Thus this is the expression that five (**7**) and-greater unit-balls *in any dimension* although-non-conceptual, *overlap for in a given surface area (and in seven dimensions) of which is greater than it's volume.* This is one to one with the coloring theorem **for a torus**... thus that when technology takes a leap of one-bit, surface area to volume of *Quantum Computer(s) will increase in power by some **n!** with each new-bit, to a general algorithm by an $(e^{-l \cdot n]})$.

Thus we see the Statistical Mechanics of a machine prohibit(s) it from executing a choice-function but of an infinite-dimensional overlay. That from zero (**0**) to infinity (inf) the volumetric argument is non-diminishing, that of the power-law in *Kurtosis-layer* hold(s) for that of any polynomial and Hermite-like basis, as that of the to-wit majority power takes place beyond the point of a diminishing-return. That $\frac{1}{2}$ for in $\leq$ and $\geq$ three (**3**) is valid is a result of that of the (**2**) of the power upon Fermat's Last Theorem. Thus it is justified that when power reduces beyond the point of a rational exponent, that of the solution becomes transcendent, and revert(s) to a prime basis, between the Incomplete result of Goldbach's Conjecture and that of the Godelian Encryption earlier mentioned, and that of the above limitation given an exponential-Gaussian in that of Quadratic Reciprocity comparative to a Seive.

This limitation is an expression of the nature of finite-fidelity to which rational 'glue' hold(s) together through gapped functions, thus of the limitation of a machine halting problem, and it's given undecidability in a 'gapped' versus 'no-gapped' system, an expression of the 'undecideability' of the 'QCD glueball mass problem' and that of the 'Yang-Mill's gap'. That it is also an expression of the nature of the quadratic to moments of a gaussian distribution, there is a tendency to believe and think of the 'quadratic' problem as-running. It is in fact not-running, but is carried in each exponential 'tail'... Thus new methodologies must be devised to computational technology to go beyond the problem of 'Axiomatic Choice functions' and that of 'Incompletion' - that of the ultimate expression of Statistical Mechanics applied to a pidgeon-hole principle, and that of beyond-Quantum-Computation with a conventional computational limitation... Goldbach's Conjecture and the Riemann-Zeta Hypothesis of which are through the 'gapped system undecidability comparative to the gapless system' - present an intrinsic limitation to Computers.

Note:

$$\sqrt{\rho_{pq}^2 - \sigma_r^2} \sim \rho_{pq} - \frac{1}{2}\sigma_r \ldots \tag{15}$$

Therefore we are appreciative of a limit carried through the analysis in:

$$\frac{2}{7} \leq \frac{1}{2} \leq 2 * \frac{3}{8} \tag{16}$$

Advantages of Primality in Finality

As that of the equation:

$$\sigma\chi = \zeta^{\mu}\mathcal{O}_{\mu} \tag{17}$$

In hidden invariance μ and structual basis and algebraic pure number ***type.*** Meet(s) a congruence, and we *hypothesize* the groups of prime additives and multiple additives (in relation to **Fermat's Last Theorem** and **Fermat's Little Theorem**) enmesh for that of the reduced-analysis of **Pell's Equation** in-relation to the **modular** (**m**) relation, we find that the arbitrary **'d'** in equation (**11**) subdivide that of the quotient-remainder into a *dual* ± 1. Thus, the intimacy of Godelian Incompletion suggests of *Goldbach's Conjecture* that there are two mutually exclusive identities in the even's and the odd's (subtractive the odd-composites for of the odd nature of a ± 1 on that of modulo (**2**)). Thus, that the remainder of two bases in composites in relationship surjectively via that of onto-linearity match that of the analytical congruence in that of *Kurtosis-layer*, **in any dimension of the argument**.

Thus that the fractional surjection of a square for in the $\upsilon = \rho_{pq} - \frac{1}{2}\sigma_r...$ is less than it's parts. Thus, that $\frac{2}{7} \geq \frac{1}{4}$ *for* $m \geq 3$. Thus, that the equation:

$$\kappa(\frac{\partial\eta}{\partial t})^2 + \tau\frac{\partial^2\eta}{\partial t^2} = h_t \tag{18}$$

Where[in] τ and κ are in a hidden phase threshold invariance of ratio of 2. Hold(s) an eigenvalue of $\frac{1}{2}$ when *Weierstrass-P functions* are used. Thus, - that of the elemental prime (**div-2**) is met in quadratic with that of the $\frac{1}{2}$; thus for that of an equation of nature:

$$\omega = \rho_{pq}^2 - \rho_{pq}\sigma_r + \sigma_r^2 \tag{19}$$

ω expresses the dual-limit *subtype form invariance* of that of simultaneously taking $\sigma_r \to 0$ and $\rho_{pq} \to 0$ in linear-time, the two balances of that of *preliminary exposure in insolubility versus ease of rote-enumerability* and that of *sigmoid falloff in end-addendum versus memory allocation in space versus time* equate to a linear 'section' of $*$ **local** nature. Thus, that of limitation of priming and prime capacity of a 'register' for the quantum principle answer(s) Schroedinger(s) cat as the expression of prime to prime virtualization of a numeric & mnemonic of it's addressable accumulatory **spatialized conversion factor at zero** - *Therefore that reality is unfillable but closed.*

The analytical relationship of the above illustrates that a $k \pm r$ in relation to the **square** holds the above constraint in relation to the **exact analysis** of which it is produced, - thus that ω in that of either limit is enclosed by that of a **ball problem** - wherein it is a tological truth that *any ball in dimension* $n \geq 3$ *may be divided into two-balls of equivalent dimension* $n \geq 3$ & *volume.* Thus, that of the equation (**17**) is in conjoint relationship to the limitation of the analysis of that of surjective onto homomorphism from that of two maps to that of it's injective reverse basis. Thus, - that primes are a group, and satisfy the *Godelian Incompletion* whereby what is held is a carried and carrier; **namely the divisor by which the equivalent even's are surjectively in a divided set with the composites from the prime odd's for** $\sigma_r \geq 3$ **and that of the** ± 1 **on that of the onto algebraic mapping**.

Thus, the mapping from-which a $\sigma_r \pm 1$ is a surjection (algebraically) is identified with a mapping in that of a *Kernel* of $3-2-1 \to 2-1-3$ of the triangular orientation preserving in relation to non-orientation-preserving qualities of the topological degrees of freedom, as in relation to the compositics, for which any odd $\pm q$ ***a prime*** is equivalent per the modular relationship to that of **a prime** for in a prime q 'under' the releaseability in relation to a c and d. Thus 'Godelian Incompletion' is the algebraically motivated orientability of opposites and the advantage of alterative oppositions between these algebraic free radicals and spaces.

Secularity beyond a Partition

Alphanumeric types and their linguistic apportion, interlocute of the plausibility for a co-determination what is questionable and what is answerable beyond the limitation of a first ordinal, unto a compressive, rarefactive, or inter-locutionary, [that is involute and evolute] undecided matrix of convexity classifications and colinear concavity structural terminal end algebraic truthtables in the modern era. Thus it is, beyond this [somewhat remotely long] description of a procession that two formative bases, co-terminally introduct of an end-addendi. Therefore, in addition, the plausibility of a machine arrested sympotomological 'err-congruence' is an affrimative. From this introduction, it is possible to assail of a co-terminal entrance of what would be the 'halting' of a foreign-CPU *like* structure, for in that of formative basis of some-uvual obstruction in a pillar* of knowledge.

When it is known, that a 'halt' can be introduced, the 'err-margin' - is a locus of foreign and local (global) informational contrast culled from it's derivative subspatialized and subspecial remote interlocution. Thus the problem of **Goldbach's Conjecture** is related to that of the nexus of formatted end-addendi, and their spatialized index-format-numeric-datatype. That this advances the relationship of internet* (so-called) security, we see the conjecture at a prime prime truncation to be an identifier inter-alialy in relationship with a non-polynomial and polynomial datatype. In addition; although (and albeit) there is a manner of securable end-addendi, - there is also the complexity of a 'non-convex-cosheave-cohomomorphism' - for which it is unknowable (and securable) - but of a free* rouge archetype. That we may index, and naturalize information, news in the negative affirmative, is that the free evolution of human nature upon our planet, promotes the insecurable precept, - that eventually - for spontaneous and mysterious reasons - one know(s) of a co-relative truth.

Nexus of Algebraic Entreatments

So, as it were, the exponentiation of a terminal end, in the equation (1) ***Fermat's Last Equation*** so emanably produces an introduction at anomalous subspatialized quantifier of mathematical archetype, forbidden but yet to the machine, or a computer. That of the impossibility of this equation to be resolved in idempotent bases, interadoptively produces the quantification that two indelifiable **odd/even** consonances relate to the plausibility of a geometric interpretation and valid basis. That the codification of one symptomology for in another relates to a nexus* of two-entreatment(s); the four color-theorem is related to that of the impossibility of a reductional symptomology. Thus that it cannot be solved by hand, but yet by that of a recurrence in a 'Godelian Incompletion', a genuinely incomplete statement. Thus there is a graph (emanating from infinity) with a number of color(s) six in number, *The Theory of Unpredictability Arises.*

The truncation of an arising at a modulo in $k \pm r$ for the composites, therefore trails for in what are the inheritable truthtables of that of a circumstantialized graph. That the $k \pm r$ for what is a ± 1 therefore produces the disclarative between an NP and a P problem, a boundary. That of the inheritance, of one classification for in two grouping(s) is therefore introduced as a *Godelian Problem* because it results from a two-manifold under collapsement, an undetermined truth. When this is the known synoptic, the resultant is the ration of known to unknown, for in a penanence at a group-theorem in $\{[A, B], C\}$, thus that the composite function of a residual is it's reduced heirarchal basis, in the quotient of the radical like formulation between prime and non-prime, in relation to composite.

That we end, with a ratio under summation to-which that of the gestalt sequential prime product, is related to that of the ratio of squares in primes, versus Euclidean strata, under a summability, versus adjacent power(s); - that of the genesis in $\frac{2}{\pi}$ to $\frac{\pi}{4}$ as the gestalt relationship of hidden and therefore mutually revealed composite prime strata, eradicate the assumption of insolubility, - therefrom in which there are two exponentiations in $k \pm r$ (via the reisudal) - that of the respective positioning of the number is sufficiently and necessarily shown to elucidate the probalistic exact inequality of a real part of $\frac{1}{2}$ in the ratio visa-a-via the Riemann-Zeta strip comparative to a Goldbach Solution, in all numbers.

The mutual assailability of a truthtable therefore requires the strict inequivalence of a 'T/F' in not and not-not (to verification). Only this can beset of what is a codex for in that of a naturalized engima*; - the suppositional equality gleaned from which six (6) is both the set(s) $5, 1$ and $3, 3$, thus the period-identifier of a locus on that of a beset pattern with imputed impediment justifies the utility of an undecided categorization. Thus, the truth of the existence of hidden and therefore revealed prime prime addition solutions of Goldbach's Conjecture is justified as the solution and identification with 'Godelian Emptiness' - and it's verified resolution, for that of in turn, **solubility**.

Relationship to Number Theory

For that of a quotient of such-as are two factor(s) simply described as for-which $\gcd = 1$, that of the difference of preparatory mean(s) (under persuasion of which there is a numeric identity of 1 (unity) for which the integers operate by an antecedent in relation to addition); - there is a given of 1 under separation of the prime(s) in relationship with the even of which exists for that of the ***Master Theorem*** in relation to non-identical $\wp$ curves. Thus, the elliptic classifier promotes that the square radical of an inheritance at that of similar relationships of $ab + cd = q$ is such that either a or c are-prime, counting two [as prime]. Thus, that of the decimation upon which a 'Godelian Incompletion' of the prevalent theory find(s) expression in two mutual dual unknown statement(s) of a question in relation to an answer.

What is not forbidden, is that the contextual arrest of a given at that of $2x$ for in that of y is of a derivative assumption to which it's *Kernel* contain(s) a descidual of the return function to which an Axiom of Choice is defined in terms of parallels of $3 - 2 - 1$ and $2 - 1 - 3$ for that of a 'blockade'. Thus, - that the ontological statement of ***Fermat's Little Theorem:***

$$a^{p-1} - 1 = 0 \; mod \; p \qquad p \in P \tag{20}$$

Thus, we may go further than the Axiom of Choice to state that one choice among three elements and two of undecided nature of one type may be informed *among two*, for which the functional analysis with $p - 1 \rightarrow \phi(p)$ is as certain as that of the derivative assumption that prime(s) are mutual agencies. It is capacitated that neither is a prime resolving to a contradiction *with incompletion*, as, alternatively, the statement would not produce an undecideability of which is *then-decided* $*$ as mutuals for which one is odd and the other odd. The existence is to which that when a prime is lesser $2 < 3$ at this-prime, that of a greater must become of that of a solution in-primes, for which either are undecided but for that of 2 in relationship to that of the parallels by which in either *Euler Phi* that of the product is related to two *numbers*. Thus, the separation is inherited from the properties of the integers to be counted in steps of greater than one... $2 > 1$, by an additional rule of multiple at $(@)$ 4 and greater.

This signifies that the releaseable condition to which a prime is known in relation to it's marker and structure is the example by which either order makes the difference of-order, for which in-either *of two among a higher number*, - that of the symbolic retention is of a 2.1 on what is a 3.1 and 0.1, thus the conveyance to which power is divided in multiple, shown here equivalent to the theorem of ***Prime Factorization***. Either may be ***an effective*** 0 under the relationship of mutual statement(s) decided in-tandem for which $1 + 1$ hold(s) with respect to that of a modular basis underived, of which 2 exists... therefore that an infinite list of choices exist of which also illustrate AOC entirely decided ***even among empty sets***, with the exception that they may be labeled or - **not**.

Thus, - that of 2 classifications, devolve to a statement that two primes may be chosen, as a result of which either may be expressed under under inheritance or stipulation unto a third or larger number of items. Of 2 to inhere of one (1) but of that of the multiples signing in ± 1. Thus, that a power may be ± 1, we have a **sign** of which relates multiples to commensurate number(s); thus, that in appeal to incompletion, ± 1 inhere(s) of a $*$**unit** for of the ***unit*** existing as at least one for each prime [Stillwell]. Thus, - that the inheritance of the two statements, that there is an unvoided condition with empty sets and that of the stipulation to which a third agency with oppositional categorization *decide G.I in favor of G.C.* for of either with or without counting a specified interval of unit analysis. Thus the primes are known to be innate to the structure of numerical identities in their base form.

End Justification

At the end, we find the *table*:

$*$	A	B
A	T	F
B	U	U
C	F	T

For which we select either the group for and of the anomolous (6), in A or B, of which either-parallel contains the uncontained, as a correlate. Thus that missing information encodes for that of the U ***simultaneously*** with a $\{T, F\}$... *ambiguity*. Trissection resolves to two parallel's then in which Goldbach's Conjecture is resolved, with the exact equality for in that of the inexact equality with ≥ 3 for that of **FLT** in relation to **RZ** and **GC** of which there are idempotent period-period conjectures of unrevealed invariance classifiers on that of in-terminology of residual in relation to modulo, of an elliptic period in relation to a semi-reflexive equality. Thus that **1** epitomizes the structural relationship of the formative basis of any 2 and 3. Thus we find that under an ascent or a descent, the intimable truth of a semi-reflexive statement is tantamount to that of a given of set-theory. Thus, the **AOC** is proven with-that of the proof that the set that contains itself ***exists**. *Finally*; we find that numeric lcm and gcd represents that prime(s) secularize of the natural formula $lcm(a, b)gcd(a, b) = ab$ for which the inhered truth of two non-square representations, is it's idempotent classifier among what-are two-prime(s).

Thus that as the power(s) add, the **Goldbach Conjecture** is the statement that hold(s) for addition in descendency from which *prime factoring is unique.* Thus, *Godelian Incompletion* is the expression of which mutual(s) determinant(s) share idempotently unique structures given their square-modulo relates to an even-power under ascent.

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