# The rational variability of all empty space by prime numbers The new mathematics of primordial $1: 3$ and "Chan" function of prime numbers Part 1: the curved "Chan" function of prime numbers 

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#### Abstract

This mathematics manuscript has no conjecture, and the values of the half-line prime number are absolute and of simple pure mathematics by dual spiral cords that clearly spell out the distributive form of Prime numbers. The very clear halfline values for each prime numbers are made indirectly by using our continuous sieve of prime numbers ( Den otter/Hope research sieve) or any other risky prime sieve .Half-line values for each prime number are constant by an ascension order ( $19=16$ for instance). This is also done directly using the quadratic base to derive the variability, and the values of sets are constant. We have shown the characteristics of Prime numbers genesis and distribution, by clear sublime mathematics, that no living mathematician can question as the values are absolutely clear and that this is the way the creator created the prime numbers Now the concepts of current mathematics with regards to prime numbers are passé and in the authors opinion they are convoluted. The orientation of prime number distribution of the curved spiral is "warped variable constant" by spiral sets of fixed prime number distribution. The coordinates are fixed at 1:3 and the spiral sets are fixed; the orientation is however twisted and warped from each position as shown herein. The coordinates of the Chan point prime numbers 5:7 (14:16) 19:23 are at the base and un-warped and this is evident topologically in any flat paper rendition of prime numbers, but after that the midline rotates by set orientation and topologically the spiral ascension has variable orientations but predictable dimension from any given point. This is the numbers theorem of space orientation, and dimension where all numbers represent their relationship to the half-line. Proof of this also is in the patent 1:3 diagram by topology shown below, and the "Chan point" by quadratic base and spiral orientation.


Keywords: Prime number distribution, Prime number half-line, Chan function of Prime numbers,19, 1:3 divergence'-1 zero.

## 1 Introduction

In a divergence, there is ascension and expansion of space. Prime numbers are meant to mark that ascension as a curved mathematics. As in rational divergence and for various reasons 1:3 is the most rational divergence( 3 forward and lup),there is always the relationship with the half-line, and that relationship is represented by the so called half-line values that are associated specifically with all prime numbers( the author has clear indication by theorem that based on two prime number chords that alternate, that this prime number arrangement is a spiral arrangements, although the half-line mathematical model needs further research ,but that's the way it is! Of these values the value at prime 19 (16), and 23 (14) are noted, fully noting that $16+14=30$ value, and $23+19=42$ value.
"We have by mathematical intuition chosen these two prime number cords to create a spiral reality, one is divergent, and the other in convergent. That is the point of mathematical discussion in the paper of the "Chan point" and why 19 and 23 have a fixed interaction including a quadratic base. One chain has a base of 5 and the other chain a base of 7, one a half line number of 14 and the other half-line number of 16 , that has been shown by diagram to be precise for reversal of 19 and 23 values"
The geometry of the correct 19 degrees at 1:3 is precise, even as shown by diagram.
Prime numbers are by ascension markers in empty space, and prime numbers fix the reference in space by divergent and convergent coordinates. Much of this is discerned by indirect use of the prime number sieve etc, but a direct determination of the so called half line values would open the whole barn door of prime number resolution. We know much about half -line values of prime number and these are related to spiral ascension, as is obvious, but real
mathematics is extremely obtuse. The following diagram is a rough overview, as these diagrams cannot be made topologically because each prime number takes on a different plane. The rest of the diagrams are at the end.


Fig. 1: Diagram on prime spirals (Non Topological)

### 1.1 Mathematics

### 1.1.1 Prime number cords and curved lineage

Prime numbers genesis starts at 5:6:7, the sum of the span is always $\sim 18$; the number $\sim 6$ is the half-line equalizer (1:3). The order is specific by arithmetic, and must be checked by a good prime sieve such as the den Otter / Hope research sieve which is a continuous sieve for prime numbers based on the format of the -1 for non-linear space $(0.5 / 60$ and $1 / 60$ ). Here is an un-segregated line of Prime numbers. Please see full reference for extended series.
$\mathbf{5 , 7 , 1 1 , 1 3 , 1 7 , 1 9 , 2 3 , 2 9 , 3 1 , 3 7 , 4 1 , 4 3 , 4 7 , 5 3 , 5 9 , 6 1 , 6 7 , 7 1 , 7 3 , 7 9 , 8 1 , 8 7 , 9 7 , 1 0 1 , 1 0 3 , 1 0 7 , 1 0 9 , 1 1 3 . . .}$
The two cords of prime number follow an ascension order as follows'
Cord A 5,11,17,23,31,41,47,59,67,73,83,97 103,109 ...
Cord B $7,13,19,29,37,43,53,61,61,71,79,89,102,107,113 \ldots$.
The fixed mathematics of the two cords is as follows'
Cord A
$(5 * 11)+(11 * 12)=(11 * 17) ;(11 * 17)+(17 * 12)=(17 * 23) ;(17 * 23)+(23 * 14)=(23 * 31) ;(23 * 31)$
$+(31 * 18)=(31 * 41) \ldots$ so on infinite.
Cord B.
$(7 * 13)+(13 * 12)=(13 * 19),(13 * 19)+(19 * 16)=(19 * 29) ;(19 * 29)+(29 * 18)=(29 * 37) ;(29 * 37)+$
$(37 * 14)=(37 * 43) \ldots$ so on indefinite.

### 1.1.2 What is the half-line prime number value, how do you calculate the value specific to each prime number?

Half-line values by numbers: In terms of numbers the half-line value is a non- dimensional value that is constant for all numbers based on their individual value. As an example below, for the random prime numbers 59, 89. As shown. Also constant are the coordinates associated with it.
That value is 20 for number $\mathbf{5 9}$ with a fixed coordinate of $\mathbf{3 9}$ which is 20 less than 59:

$$
59-39=20
$$

For Prime number $\mathbf{8 9}$ with a fixed coordinate of $\mathbf{6 7}$ which is 22 less than 89 :

$$
89-67=22
$$

In the dimensional placement of prime numbers in empty space, this variability translates into a spiral format of prime number ascension and divergence and the half line for a number reflects the cross over to a spiral. This is complex since the divergence at $1: 3$ is in multiple planes and cannot be topographically reflective of the prime numbers, except at a plane below the number 19 as shown in the diagram, but basically this is the relationship of a number in its spiral ascension, connecting the fixed placement of say prime 59 with the next spiral. Half- line is a direct linear measurement and the attached diagram can shed some light on it. This needs to be further researched mathematically as to the spiral sets that have been explained.

### 1.1.3 How does one calculate half line values?

We use the most secure Prime number sieve known called the den Otter-Hope research $p$ of this sieve amongst the mathematicians who boast of their ancient prime sieves. This prime sieve is a continuous and based on 19 and 1:3 and 6 . A simple example of the calculation of half- line value for any number, as an example for 19: you take the second preceding number and the second number that follows 19 as shown. This is simple as that for all numbers, please also see published reference
$(13 * 19)+(19 * 16)=19 * 29 \ldots(29-13=16)$
The actual calculus is a variable constant accommodating the varying tangents at the spirals. Those Calculus's are being done and one method is introduced below less than 18, but as is shown in the authors papers we can find these half-line numbers indirectly through the prime numbers sieve (Den otter /Hope research sieve, a sieve based on 6).Each number has a unique relationship to the half-line. This following is simply a format for direct estimation; the calculus is not done yet, but may be in the next manuscript on the unified theorem. We can calculate all hope- line values indirectly.

PRIME 7 *2=14
$1 \ldots$ (-6)... (7)... (+6)... 13
Half line value is $6+6=12,13+1=14$
Prime 19*2=38
$11 \ldots(-8) \ldots(19) \ldots(+8) \ldots 27$
Half line code is $8+8=16 \quad 27+11=38$
Prime 103*2=206
97...(-6)...(103)... (+6)... 109

Half-line code is $6+6=12,109+97=206 ; 109-97=12$

### 1.1.4 Why is the role of 19 , as the key number?

This is for many reasons, and as discussed under Chan point below and the polarity as discussed in our published paper on the fall of Riemann's hypothesis, and the main role of the correct angle 19 at $1: 3$ as in the diagram. Also 19 is the prime number with the base multiplier value of any prime number as is shown in the following exercise

$$
\begin{aligned}
& 19^{2}-18^{2}=37 \\
& 19^{2}-1^{2}=360
\end{aligned}
$$

$360-37-(19 * 1)=304(19 * 16)$ which the precise half line value of 19
Comparative value for prime number 11:

$$
\begin{aligned}
& 11^{2}-10^{2}=21 \\
& 11^{2}-1^{2}=120
\end{aligned}
$$

$120-21+(11 * 3)=132(11 * 12)$. The exact half-line value for 11 is 12 . Note the polarity + Trivia:

$$
\left[\left(19^{2}-18^{2}\right)-(19-18) * 10=\left(19^{2}-1^{2}\right)\right]
$$

### 1.1.5 Format of $\mathbf{1 8}$ (please reference to the list below on prime distribution)

The format of " 18 " in the numeration of the prime cords and half line numbers is clear since we are dealing with a 1:3 divergence. Specificity of the value 18 as the mathematical rationality is the key. The format fits the value 18 , with the half line values and that's why we consider 18 as rational. A direct solution for the half line values will involve the 18. Convergence at 6 and divergence is at $3(6 * 3=18.6 / 3=2,6-3=3)$

As to why 18 suits this , it is because it tabulates indefinitely the prime number base values and half line numbers and maintains the concordance of $1: 3$ value at 19 , and the $16+2=18$ and $16+3=19$ at 19 . Also note the $14+4=18,14+9=23$ at 23. Other than that this format is the least stupid, pending the final direct calculus. It has been explained on our paper on the "disproof of Riemann's hypothesis", and if you look at this list below the multiplier reflects the precise distance of the half line value from 18 ( $18-16=2$ ). No other number fits the bill.
18 is the mathematical standard for prime numbers and thus these are defined as in sets.

```
19*18-(19*16) = (19*2)
41*18-(41*16) = (41*2)
43*18-(43*16)=(43*2)
73*18-(73*16)=(73*2)
23*18-(23*14)=(23*4)
37*18-(37*14)=(37*4)
67*18-(67*14)=(67*4)
Half line for 19=16
Half line for 23=14
Half line for 29=18
Half line for 31=18
(19*18)-19*2=304(19*16)
(23*18)-23*4=322(23*14)
(29*18)-29*0=522(29*18)
(31*18)+31*0 =558(31*18)
(37*18)+37*4=518(37*14)
(59*20)+59*2=1180(59*20)
NOW in the above series the multiplier with the prime number
19=-2
23=-4
29=0
31=0
37=-4
59=+2
Now introduce the next observation:
19-18=1
23-18=5
29-18=11
```

$31-18=11$
$37-18=9$
$59-18=41$
Then transpose the two multipliers, on the bottom calculus, it is precise and precisely fits the series below on the right hand side
$19=1+2=3\left(19^{2}-(19 * 3)=19 * 16\right.$
$23=5+4=9$
$29=11+0=11$
$31=11+0=11$
$37=9-5=4$
$59=41-2=39$

$$
\begin{gathered}
(5 * 18)-(5 * \mathbf{1 0})=40\left(\frac{40}{5}=8\right) 40=\left(5^{2}\right)+(5 * 3) \\
(7 * 18)-(7 * \mathbf{8})=70\left(\frac{70}{7}=10\right) 70=\left(7^{2}\right)+(7 * 3) \\
(11 * 18)-(11 * \mathbf{6})=132\left(\frac{132}{11}=12\right) 132=\left(11^{2}\right)+(11 * 1) \\
(23 * 18)-(23 * \mathbf{4})=322\left(\frac{322}{23}=14\right) 322=\left(23^{2}\right)-(23 * 9) \\
(19 * 18)-(19 * \mathbf{2})=304\left(\frac{304}{19}=16\right) 304=\left(19^{2}\right)-(19 * 3) \\
(29 * 18)-(29 * \mathbf{0})=522\left(\frac{522}{29}=18\right) 522=\left(29^{2}\right)-(29 * 11) \\
(59 * 18)+(59 * \mathbf{2}) 1180\left(\frac{1180}{59}=20\right) 1180=\left(59^{2}\right)-(59 * 39) \\
(89 * 18)+(89 * \mathbf{4})=1958\left(\frac{1958}{89}=22\right) 1958=89^{2}-(89 * 67) \\
(83 * 18)+(83 * \mathbf{6})=1992\left(\frac{1992}{83}=24\right) 1992=\left(83^{2}\right)-(83 * 59) \\
(317 * 18)+(317 * \mathbf{8})=8242\left(\frac{8242}{317}=26\right) 8242=\left(317^{2}\right)-(317 * 291) \\
(127 * 18)+(127 * \mathbf{1 0})=3556\left(\frac{3556}{127}=28\right) 3556=\left(127^{2}\right)-(127 * 99) \\
(199 * 18)+(199 * \mathbf{1 2})=5970\left(\frac{5970}{199}=30\right) 5970=\left(199^{2}\right)-(199 * 169)
\end{gathered}
$$

### 1.1.6 The Prime Gap 19: $18 * 20(-1+3)=360$

This is an obtuse understanding and forms the basis of the next Paper on the Unified Theorem, but precise mathematics, by theorem as shown. This is applicable to prime numbers in a precise manner, to understand half line numbers. $-1+3$ is the patent new mathematics at 19 as shown in the manuscript. By polarity: The rational /exclusive expression is expressed by the simple equation $20-(20-2)=2$, refers to the 2-1.8 gap, the prime 19 gap

$$
\begin{aligned}
& {[(N+18)+3]-[(N-18)-1]=40 \text { constant }} \\
& [(N+20)+0)]-[(N-20)-0]=40 \text { constant } \\
& {[(19+3+0)]+[(19-1-0)]=40 \text { constant }}
\end{aligned}
$$

$$
\text { It is worth noting that }[\sqrt{40}-(\sqrt{(10)}+\sqrt{(9)})=(\sqrt{10}-\sqrt{9})]
$$

It is concluded, that the gap 18 and 20 gap represents prime 19 gap, and its "ligand" with value 40
Thus the 19 prime gap represents $2(+3-1)$ exclusively as no other gap of 2 does this in the entire mathematics .At no other gap is this possible and the 19 gap between 18 and 20 represents 2 or $+3-1$ exclusively. $18 * 20$ then becomes 360.The upcoming paper on the Unified Theorem discusses this in some detail.

The relationship of 40 to $120(360 / 3)$ and 40 to $90(360 / 4)$ is precisely the value $3: 2.25$

$$
\begin{gathered}
120-(18 * 5)=10 * 3 \\
\left(\frac{120}{40}\right) * 10=10 * 3
\end{gathered}
$$

$$
120 * 3=360
$$

$$
\frac{120}{3}=40
$$

$$
\frac{360}{40}=9
$$

$$
\frac{360}{120}=3
$$

$$
\frac{3}{9}=\frac{1}{3}
$$

$1 / 120(0.5 / 60)$ is the -1 offset, and that $18 * 20=360$ has a $-1:+3$ differentials. The offset of $1 / 120$ is a mathematical fixed offset, discussed further in the manuscript. The format of $0.5 / 60$ and $1 / 60$ is the same format for prime numbers sieve 5/6 and 1/6 (a 1:10 mathematical exchange)

### 1.1.7 Strict Parameters of $\mathbf{1 : 3}$ divergence and convergence

Divergence 1:3
Convergence 1: 6
Span (18) $5+6+7=18$
19 correct degrees precisely accommodates 1:3 as is clearly shown by geometry.

### 1.1.8 Basic two spiral cords of prime number distribution

The two cords of prime numbers are translated as shown in the mathematics and as shown here as fixed guardians of the coordinates of space. These half-line mathematics of the cord are precise and infinite and require a correct prime sieve such as the den Otter ,Hope research sieve at 6 .If anyone does not understand this simple mathematics, there is nothing the author can do. The following two cords of prime numbers are precise.
The basic arrangement of the numbers in the cord is as follows: The crude formation represents the spiral orientation of the prime numbers that follow the mathematics as shown below. There is no doubt by mathematics that there are two prime number cords that are spiral in ascension, in divergence and convergence. These are responsible for expansion and ascension in space, with infinite dimensions described by orientation of the prime numbers.


### 1.1.9 Prime number half -line values and the variable spiral sets (base values are in bold)

$47 * 18$
53*18
$47=18$
$53=18$
$61 * 18$
$71 * 18,101,157,173,191,193,613 \ldots$...so on*18
59=20
97*20
$149 * 20,163,181,197,263,271,457,569,599,601 \ldots$ so on*20

### 1.1.10 Polarity and Composite of 19 (new to mathematics)

Prime numbers are by ascension order in empty space, and prime numbers fix the reference in space.

| Table 1 |  |
| :--- | :--- |
| $19 * 3=57$ | $5+7=12 *$ |
| $19 * 6=114$ | $11+4=15$ |
| $19 * 9=171$ | $17+1=18^{*}$ |
|  | Gap of $30-18=12$ and $30-12=18,18+12=30$ |
| $19 * 12=228$ | $22+8=30^{*}$ |
| $19 * 15=285$ | $28+5=33$ |
| $19 * 18=342$ | $34+2=36^{*}$ |
|  | Gap of $48-30=18$ and $48-36=12,18+12=30$ |
| $19 * 21=399$ | $39+9=48^{*}$ |
| $19 * 24=456$ | $45+6=51$ |
| $19 * 27=513$ | $51+3=54$ |
| $19 * 30=570$ | $57+0=57$ |
|  | Note the correction of mathematics at $\mathbf{5 7}$ |
| $19 * 33=627$ | $62+7=69$ |
| $19 * 36=684$ | $68+4=72$ |
| $19 * 39=741$ | $74+1=75$ |
|  | Gap of $87-75=1287-69=12,12+18=30$ |
|  |  |

Both these are discussed in our published papers as referenced. These are very patent findings, not given to any conjecture. As far as 19 composite is concerned current mathematics ought to be ashamed of their record regarding this one and the only great number 19. Polarity of Prime number and especially the Chan point at 19 was never understood by George Riemann. There is a following discussion of the polarity of 19 and the composite of 19 at the value set of 3 which is a novelty to the world of mathematics. 19 divide by composite into sets of 3 . The end differential value of 30 is $(3 * 10=30 ; 18+12=30$ and $18-12=6$, thus $1 / 3$ ). The series changes at $19 * 30$ FOR THE VALUE 57. Please pay attention.

### 1.1.11 Mathematical File tables

Files demonstrates the variability of the primary sets of prime numbers, and give an understanding of the rationality of the apparent placement of divergent prime numbers and their half-line values. That is what this paper is all about. In empty space first there is a half line defined mathematically with half-line numbers, and then there is the spiral expansion of all space in a spiral form around the half line. We have presented pure mathematics proof of the Prime "©Han Point "and the curved sets of prime numbers, as we call it. That is what this complex manuscript demonstrates. The bases in the table below are fixed at $5,7(1,1.25)$ and 8 , consequently the rest of the values are concordant $(=)$. This table gives a mathematical bird's eye view of the variability. The fact remains that irrespective of frame this is the variability, but that variability is predictable by understanding spiral sets. The residual prime numbers are incorporated under these sets, and a discerning mathematician should understand that:

Table 2

| Half-line prime /8 | Base spiral Prime no in bold: (each spiral has a set).Note the variability | Set multiplier values, note 1 at 5,2 at 19,3 at 83,4 at 113 | half-line value of the prime number |
| :---: | :---: | :---: | :---: |
|  |  | +0.25 | (+1/3(/6), +2) |
| 8/8=1 | 5 | 5/1/2/2/2=0.625 | $\begin{aligned} & 5 / 0.625 \\ & =8 \end{aligned}$ |
| $\begin{aligned} & 10 / 8=1.2 \\ & 5 \end{aligned}$ | 7, | 7/1.25/2/2/2=0.7 | $\begin{aligned} & \hline 7 / 0.7 \\ & =10 \end{aligned}$ |
| $\begin{aligned} & 12 / 8= \\ & 1.5 \end{aligned}$ | 11(13, 17,103,107...) | 11/1.5/2/2/2=0.916666... | $\begin{aligned} & \text { 11/0.91666666666. } \\ & =12 \end{aligned}$ |
| $\begin{aligned} & 14 / 8=1.7 \\ & 5 \\ & \hline \end{aligned}$ | 23(37, 67...) | 23/1.75/2/2/2=1.642857... | $\begin{aligned} & \text { 23/1.64285714286. } \\ & =14 \end{aligned}$ |
| 16/8=2 | 19(41, 43, 73...) | 19/2/2/2/2=1.1875 | $\begin{aligned} & 19 / 1.1875 \\ & =16 \end{aligned}$ |
| $\begin{aligned} & 18 / 8=2.2 \\ & 5 \end{aligned}$ | $\begin{aligned} & \text { 29,(31,47,53,61,71,101,157,173,191, } \\ & 193,271,613 \ldots) \\ & \hline \end{aligned}$ | 29/2.25/2/2/2=1.6111111... | $\begin{aligned} & \begin{array}{l} 29 / 1.61111111111 . \\ =18 \end{array} \end{aligned}$ |
| 20/8=2.5 | $\begin{aligned} & \text { 59,(97,149,163,181,197,263,271,457,5569, } \\ & 599,601,) \end{aligned}$ | 59/2.5/2/2/2=2.95 | $\begin{aligned} & 59 / 2.95 \\ & =20 \\ & \hline \end{aligned}$ |
| $\begin{aligned} & 22 / 8=2.7 \\ & 5 \end{aligned}$ | 89(137,167,239,281,347,349,379,389,433,449...) | 89/2.75/2/2/2=4.045454545... | $\begin{aligned} & 89 / 4.04545454545 . \\ & =22 \end{aligned}$ |
| 24/8=3 | $\begin{aligned} & \mathbf{8 3}(109,151,179,251,311,313,331,359,563,571,5 \\ & 77) \end{aligned}$ | 83/3/2/2/2=3.45833333333 $\ldots$ | $\begin{aligned} & 83 / 3.45833333333 \text {. } \\ & =24 \end{aligned}$ |
| $\begin{aligned} & 26 / 8=3.2 \\ & 5 \end{aligned}$ | 317(367,397,469...) | 317/3.25/2/2/2=12.19230769. | $\begin{aligned} & 317 / 12.192307692 \\ & =26 \end{aligned}$ |
| $28 / 8=3.5$ | 127(229, 479, | 127/3.5/2/2/2 = 4.535714285 | $\begin{aligned} & 127 / 4.5357142857 \\ & =28 \end{aligned}$ |
| $\begin{aligned} & 30 / 8=3.7 \\ & 5 \\ & \hline \end{aligned}$ | 199-(223,293,307’ $401,419,503,557,587)$ | $\begin{aligned} & 199 / 3.75 / 2 / 2 / 2=6.633333333 \\ & 3 \end{aligned}$ | $\begin{aligned} & 199 / 6.6333333333 \\ & =30 \end{aligned}$ |
| $\begin{aligned} & 32 / 8= \\ & 4.00 \end{aligned}$ | 113(211, 229,337’487.....) | 113/4/2/2/2=3.53125 | $\begin{aligned} & 113 / 3.53125 \\ & =32 \end{aligned}$ |
| $\begin{aligned} & 34 / 8=4.2 \\ & 5 \end{aligned}$ | 331(331........) | $\begin{aligned} & 331 / 4.25 / 2 / 2 / 2=9.735294117 \\ & 65 \end{aligned}$ | $\begin{aligned} & 331 / 9.73529411765=3 \\ & 4 \end{aligned}$ |

The following table demonstrates the inherent rotation when $+1 / 3$ value shifts with $+1 / 4$ by prime numbers, noting clearly that the midline moves at $+2 / 6(1 / 3)$

| Base prime number/spiral set, in two spiral <br> chains, non-segregated values of the specific <br> sets. Base values in bold | $\mathbf{1}$ Ascension (note value of $\mathbf{1}$ at <br> $\mathbf{5})$. The base values are fixed <br> at $\mathbf{5}, \mathbf{7 .}+\frac{\mathbf{1}}{\mathbf{4}}$ | $\frac{\mathbf{1}}{\mathbf{3}}$ ascension(note © point at $\mathbf{1 9}$ <br> and 23) $+\frac{\mathbf{1}}{\mathbf{3}}$ |
| :--- | :--- | :--- |
| $\mathbf{5}$ | $5 / 1 / 2 / 2 / 2=0.125$ | $1.33333333333\left(\frac{8}{6}\right)$ |
| $\mathbf{7 ( 7 9 )}$ | $7 / 1.25 / 2 / 2 / 2=0.7$ | $1.66666666666\left(\frac{10}{6}\right)$ |
| $\mathbf{1 1}(13,17,103,107)$ | $11 / 1.5 / 2 / 2 / 2=0.91666666$ | $2.00000000000\left(\frac{\mathbf{1 2}}{6}\right)$ |
| $\mathbf{2 3}(37,67 \ldots)$ | $23 / 1.75 / 2 / 2 / 2=1.642857142$ | $2.33333333333\left(\frac{\mathbf{1 4}}{6}\right)$ |
| $\mathbf{1 9}(41,43,73 \ldots .)$. | $19 / 2 / 2 / 2 / 2 \quad=1.1875$ | $2.66666666666\left(\frac{16}{6}\right)$ |
| $\mathbf{2 9}(31,47,53,61,71,101 \ldots .)$. | $29 / 2.25 / 2 / 2 / 2=1.61111111$ | $3.00000000000\left(\frac{\mathbf{1 8}}{6}\right)$ |
| $\mathbf{5 9}(97,149,181,197,263)$, | $59 / 2.5 / 2 / 2 / 2=2.95$ | $3.33333333333\left(\frac{20}{6}\right)$ |
| $\mathbf{8 9}(137,167,239,281,347,349,379 \ldots)$ | $89 / 2.75 / 2 / 2 / 2=4.04545454545$ | $3.66666666666\left(\frac{22}{6}\right)$ |
| $\mathbf{8 3}(109,151,179,251,311,313,331,359)$. | $83 / 3 / 2 / 2 / 2=3.4583333333333$ | $4.00000000000\left(\frac{24}{6}\right)$ |

The following table gives a bird's eye view of base prime number variability and their so called curved set values:

| $5: 8$ |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $7: 10$ |  |  |  |  |  |  |  |  |  |  |  |  |
| $11: 12$ | 13 | 17 | 103 | 107 |  |  |  |  |  |  |  |  |
| $23: 14$ | 37 | 67 |  |  |  |  |  |  |  |  |  |  |
| $19: / 16$ | 41 | 43 | 73 |  |  |  |  |  |  |  |  |  |
| $29: / 18$ | 31 | 47 | 53 | 61 | 71 | 101 | 157 | 173 | 191 | 193 | 271 | 613 |
| $59: 20$ | 97 | 149 | 163 | 181 | 197 | 263 | 271 | 457 | 569 | 599 | 602 | 599 |
| $89: 22$ | 137 | 167 | 239 | 281 | 347 | 349 | 379 | 389 | 433 | 449 |  |  |
| $83: 24$ | 109 | 151 | 179 | 251 | 311 | 313 | 331 | 359 | 563 | 571 | 577 |  |
| $317: 26$ | 367 | 397 | 469 |  |  |  |  |  |  |  |  |  |
| $127: 28$ | 229 | 479 |  |  |  |  |  |  |  |  |  |  |
| $199: 30$ | 223 | 293 | 307 | 401 | 419 | 503 | 557 | 587 |  |  |  |  |
| $113: / 32$ | 211 | 229 | 337 | 487 |  |  |  |  |  |  |  |  |

### 1.1.12 General basics of Mathematics

The following is the basic layout of mathematics by proportions and by numerations and note the trivia $\frac{2}{3}(=) 7$, and $\frac{1}{3}(=) 3$.the paradox of -1 , as in the figure below. Note that

$$
\begin{gathered}
\left(1-\frac{2}{3}\right)=\frac{1}{(10-7)}=\frac{1}{3} \\
\frac{0}{1} \ldots \frac{1}{3} \ldots \frac{1}{2} \ldots \frac{2}{3} \ldots \frac{1}{1} \\
\frac{0}{1} \ldots \frac{3}{1} \ldots \frac{5}{1} \ldots \frac{7}{1} \ldots \frac{10}{1}
\end{gathered}
$$

Note:

$$
\begin{gathered}
10^{2}-9^{2}=19 \\
10-9=1 \\
1-0.9=0.1
\end{gathered}
$$

Note that a hypotenuse $\sqrt{ } 10$ at $1: 3$, has exact sides $\sqrt{ } 9+\sqrt{ } 1(=) \sqrt{ } 10$, with an exact angle of $360 / 19$ revised mathematical degrees $3^{2}+1=10$, and the correct prime inverse $19(=)$ 1:3.

$$
\begin{gathered}
\frac{\sqrt{10}}{3}=\frac{1}{\sqrt{0.9}} \\
\frac{\sqrt{10}}{\sqrt{0.9}}-\sqrt{10} * \sqrt{0.9}=\frac{1}{3}
\end{gathered}
$$

$\mathrm{X}=1$ (non- variable.)
$\mathrm{Y}-\mathrm{Z}=-1$ (non- variable).
$\mathrm{Y}+\mathrm{Z}=2+\sim$ variable whole number.

$$
\begin{gathered}
\left(\frac{X}{Y}\right)-\left(\frac{X}{Z}\right)=\frac{X}{\bar{Y}} \\
\left(\frac{X}{Y}\right)+\left(\frac{X}{Z}\right)=\frac{X}{Y} *\left(X * \frac{Y}{Z}\right)
\end{gathered}
$$

Examples at 5, 6, and 7 (critical base of mathematics) 6 and 1/3: are the critical equivalent values of non-linear space as expounded in section 2 of the paper on trigonometry

$$
\frac{1}{5}-\frac{1}{6}=\frac{\frac{1}{5}}{6}=0.03333333333
$$

$$
\begin{gathered}
\left(\frac{1}{5}\right)+\left(\frac{1}{6}\right)=\left(\frac{1}{5}\right) *\left(1+\frac{5}{6}\right)=0.36666666666 \\
0.366666666666-0.033333333333=\frac{1}{3}
\end{gathered}
$$

$$
\begin{gathered}
\frac{1}{6}-\frac{1}{7}=\frac{\frac{1}{6}}{7}=0.02380952381 \\
\frac{1}{6}+\frac{1}{7}=\left(\frac{1}{6}\right) *\left(1+\frac{6}{7}\right)=0.30952380952 \\
0.30952380952-0.02380952381=\frac{1}{3.5}
\end{gathered}
$$

$$
\left[\frac{\frac{5}{6}}{10}\right]=0.0833333333
$$

$$
\left[\frac{\frac{6}{7}}{10}\right]=0.0857142857
$$

$$
\frac{1}{.0833333333333}=12
$$

$$
\frac{1}{.0857142857142}=11.66666666666
$$

$$
12-11.66666666666=\frac{1}{3}
$$

$$
\frac{[(6 * 5)+(7 * 6)]}{[(7 * 6)-(5 * 6)]}=6
$$

$$
\frac{\left[\left(\frac{1}{5} * \frac{1}{6}\right)-\left(\frac{1}{6} * \frac{1}{7}\right)\right]}{\left[\left(\frac{1}{5} * \frac{1}{6}\right)+\left(\frac{1}{6} * \frac{1}{7}\right)\right]}=6
$$

## 2 Mathematics of the Chan point

The understanding of ©point, which the mathematical base between prime number 19 and 23 , and prime numbers 5 and 7 , which is non- warped base of the Prime number divergence, and cannot be translated into a topographic diagram, as the other prime number interactions are at different planes, and the paper would have to be rotated to different planes. Chan point confirms the dual prime number chains and the overall basis of $6 * 3=18(5+6+7)$, divergence at $1: 3$

$$
\begin{gathered}
{\left[\left(\frac{\frac{19}{6}}{7}\right)+\left(\frac{\frac{23}{6}}{7}\right)\right]=1} \\
{\left[\left(\frac{7}{5}\right)+\left(\frac{\frac{73}{5}}{6}\right)\right]=1} \\
\frac{\left[\frac{19}{6}\right]}{7}=0.45238095238 \\
\frac{\left[\frac{23}{6}\right]}{7}=0.54761904762 \\
{[\mathbf{0 . 4 5 2 3 8 0 9 5 2 3 8}+\mathbf{0 . 5 4 7 6 1 9 0 4 7 6 2}]=\mathbf{1}} \\
19(=) 16[\sim 6: 7 \sim] 14(=) 23 \\
7(=) 10[\sim 5: 6 \sim] 14(=) 23
\end{gathered}
$$

Prime 23, 19 is the base:

$$
\begin{gathered}
{\left[\frac{16}{7}-\frac{14}{7}=\frac{1}{3.5}\right]} \\
{\left[\frac{16}{6}-\frac{14}{6}=\frac{1}{3}\right]} \\
{\left[\frac{23}{6}-\frac{19}{6}=\frac{2}{3}\right]} \\
{\left[\frac{23}{7}-\frac{19}{7}=\frac{1}{1.75}\right]} \\
\frac{\frac{2}{3}}{1.175}=1+\frac{1}{6} \\
\frac{\frac{1}{3}}{3.5}=1+\frac{1}{6}
\end{gathered}
$$

Chan function: All Prime numbers have mathematical codes of the Chan curved function, as a primordial value. As an

## Example

Prime 19(=)[16][2.66666666666][2.285714285714][5.33333333333]
Prime 6491 (=) [56 ][9.333333333][8][18.66666666666]
16, 56 represent the half-line value of the prime number 19 and 6491
(2.666666666666) and (9.3333333333) Represent the respective values at /6 (half line/6)
(2.285714285714) and (8) Represent value (half line/7)
(5.333333333333) and (18.66666666666) represent the curved set value for the 19 and 6491,

$$
\begin{gathered}
23-9=14 \\
19-3=16 \\
\frac{9}{3}=3 \\
16+14=30
\end{gathered}
$$

This is difficult but it is absolute basis for the © function of Prime number and the reason why the half values of any Prime number is a curved function. © Function is the half line coordinate and the spiral function of any prime number. For any spiral function to take place the following mathematical conditions must take place as follows

1. Spiral curves of prime numbers are initiated at the base by two cardinal points (Chan Points) that are of different ascension value (you cannot initiate a curve or spiral ascension from two equivalent points that have the same ascension). Mathematically there must be an offset, but also neutralization between the values -and $\div$ as shown in this text
2. We have clearly shown that the equation for Chan function accommodates the exact coordinates of $5,6,7$ and 23,19 and 7 in the Chan equation that modulates Prime half-line numbers.
3. $23-19=4$ and the half-line numbers $16-14=2$. More over this ©point is equidistant from the base 5,7 by the half line value $19-5=14$ and $23-7=16$. To reiterate again:

$$
\begin{aligned}
& {\left[\left(\frac{\frac{19}{6}}{7}\right)+\left(\frac{\frac{23}{6}}{7}\right)\right]=1} \\
& {\left[\left(\frac{7}{5}\right)+\left(\frac{\frac{23}{5}}{6}\right)\right]=1} \\
& {\left[\left(\frac{\frac{14}{5}}{6}\right)+\left(\frac{\frac{16}{5}}{6}\right)\right]=1}
\end{aligned}
$$

Note: 14 and 16 are half line value to 19, 23.
The equations of the Chan Point are self explanatory, and note reversal between half-line values 14 and 16(this is a periodic phenomenon, it happens also between prime 83 and 89). These are values at 7 rather than 6

Prime number 13(=)1.71428571429(half - line value 12)
Prime number 17(=)1.71428571429(half - line value 12)
Prime number 19(=)2.28571428571 (half - line value16)
Prime number 23(=)2.0000000000 (half - line value 14)
Prime number 29(=)2.57142857142(half - line value 18)
Base Prime number reversal in sequence (1,5,7,11, 13, 17, 19, 23)... 6~7

$$
\begin{gathered}
\left(\frac{1}{6}\right)+\left(\frac{5}{6}\right)=1 \\
\left(\frac{5}{6}\right)+\left(\frac{7}{6}\right)=2 \\
\left(\frac{7}{6}\right)+\left(\frac{11}{6}\right)=3 \\
\left(\frac{11}{6}\right)+\left(\frac{13}{6}\right)=4 \\
\left(\frac{13}{6}\right)+\left(\frac{17}{6}\right)=5 \\
\left(\frac{17}{6}\right)+\left(\frac{19}{6}\right)=6 \\
\left(\frac{19}{6}\right)+\left(\frac{23}{6}\right)=7 \\
\left(\frac{1}{7}\right)+\left(\frac{5}{7}\right)=0.85714285714 \\
\left(\frac{5}{7}\right)+\left(\frac{7}{7}\right)=1.71428571429 \\
\left(\frac{7}{7}\right)+\left(\frac{11}{7}\right)=2.57142857143 \\
\left(\frac{11}{7}\right)+\left(\frac{13}{7}\right)=3.42857142857 \\
\left(\frac{13}{7}\right)+\left(\frac{17}{7}\right)=4.28571428571 \\
\left(\frac{17}{7}\right)+\left(\frac{19}{7}\right)=5.14285714286 \\
\left(\frac{19}{7}\right)+\left(\frac{23}{7}\right)=6
\end{gathered}
$$

Thus, Prime 19, 23 are equalized at position 1

$$
\begin{aligned}
& \left(\frac{19}{6}\right)+\left(\frac{23}{6}\right)=7 \\
& \left(\frac{19}{7}\right)+\left(\frac{23}{7}\right)=6 \\
& \left(\frac{\frac{19}{6}}{7}\right)+\left(\frac{\frac{23}{6}}{7}\right)=1
\end{aligned}
$$

Vinoo Cameron MD October 2012

$$
\begin{gathered}
{\left[\frac{19}{\frac{6}{7}}+\frac{\stackrel{\text { © }}{6}}{7}\right]=1} \\
{\left[\frac{7}{\frac{5}{6}}+\frac{23}{\frac{5}{6}}\right]=1} \\
{\left[\left(\frac{\frac{14}{5}}{6}\right)+\left(\frac{\frac{16}{5}}{6}\right)\right]=1}
\end{gathered}
$$

$$
\begin{aligned}
& {\left[\frac{17}{\frac{5}{6}}+\frac{23}{\frac{5}{6}}\right]=1.33333333333} \\
& {\left[\frac{17}{\frac{5}{6}}-\frac{7}{\frac{5}{6}}\right]=0.3333333333}
\end{aligned}
$$

Thus in summary the solution to the prime numbers/ half -line numbers is based on the follows:

$$
\begin{aligned}
& \frac{[P 19-H L 16 \text { at }(6: 7)]}{[P 23-H L 14 \text { at } 6: 7]}=\frac{1}{3} \\
& \frac{[P 7-H L 10 \text { at }(5: 6)]}{[P 23-H L 14 \text { at }(5: 6)]}=\frac{1}{3} \\
& \frac{[19: 23 \sim 7: 23]}{[16: 14 \sim 10: 14]}(=) \frac{1}{3}
\end{aligned}
$$

12 is half line for 17 and 13,11
14 is half line value for $23,47,67$
16 is half line value or 19
Basic proof of the base of the spiral at the equalization value of 6 :

$$
\begin{gathered}
\frac{23}{6}-\frac{19}{6}=\frac{2}{3} \\
\frac{14}{6}-\frac{16}{6}=\frac{1}{3} \\
\frac{23}{6}+\frac{19}{6}=7 \\
\frac{14}{6}+\frac{16}{6}=5 \\
\frac{12}{6}+\frac{14}{6}=4.333333333 \\
\frac{12}{6}+\frac{16}{6}=4.6666666666 \\
4.66666666666+4.333333333333=9 \\
4.6666666666666-4.3333333333333=\frac{1}{3}
\end{gathered}
$$

The remainder of the extrapolative deductions is labor intensive, especially the set segregation, counting etc, that can be worked out but the variability is rock solid. This new mathematics is extensive and mind boggling, but it is obvious that all variable prime numbers can be placed and mapped in the continuum.

Numbers theorem, basics of unification with trigonometry: This will be detailed in later papers under the paper on the unification of numbers with trigonometry at $1: 3$, but here is the very concise reference
Note that at hypotenuse $\sqrt{ } 10$ at $1: 3$, these exact sides $\sqrt{ } 9+\sqrt{ }(=) \sqrt{10}$, with an exact angle of $360 / 19$ revised mathematical degrees $.3^{\wedge} 2+1=10$, and the correct prime inverse $19(=) 1: 3$. Then the following simplicity,

$$
\frac{\sqrt{10}}{3}=\frac{1}{\sqrt{0.9}}
$$

"All prime numbers (numbers) are segregated by their unique relationship to the half-line of a curved / spiral divergence and ascension of the mathematical continuum in empty space. This is modulated by the proportions 5 , 6 and 6,7 at a divergence of $1: 3$, by two spiral chains"
Numbers are set at value 10 , and thus 1 and 10 are the only basis for numbers, set at 1:3 divergences.

$$
\begin{aligned}
& \frac{1}{1}+\frac{1}{0.5}=3 \\
& \frac{1}{1}-\frac{1}{0.5}=-1 \\
& \frac{1}{10}+\frac{1}{5}==0.3 \\
& \frac{1}{10}-\frac{1}{5}=-0.1
\end{aligned}
$$

Numbers theorem and trigonometry: the unique characteristic of number 3 versus 2, using their half line values.
$(3+1.5)=4.5$
$(3 * 1.5)=4.5$
$3-1.5=1.5$
$(2+1)=3$
$(2 * 1)=2$
$2-1=1$
The diagram below is precise, and reflects the error in the current designation of trigonometric values of the constant 1:3 at prime 19 degrees. The author will establish a unified equation and a unified mathematics to tie all of mathematics in one continuum. Needless to say current mathematics is horribly imprecise. In the Published Papers we have delineated the spiral nature of prime numbers within the 1:3 divergences, a very difficult resolution.
The precise triangulations of the new precise trigonometry (as to be unified with Prime numbers and numbers), but using a constant off-set of $1 / 120$, are as follows and will be presented in detail in the manuscript on unified theorem.


$$
\begin{gathered}
90 \text { degrees }-\frac{1}{3} * 90=60 \text { degrees } \\
15 \text { degrees }=\frac{1}{6} \text { of } 90
\end{gathered}
$$

The assignment of 19 to 1:3 is as follows:
$19 * 3=57$
57-16(half-line value) $=41$
60-41=19
At 60 degrees the triangulation $=1: 1$, and at $19=1: 3$
At angle 60 degrees (1:1)
Side $A=\sqrt{1}$

Side $B=\sqrt{ } 1$
Side $C=\sqrt{ } 1$
At angle 361/19= Prime 19 degrees (corrected)
Side $A=\sqrt{ } 9$
Side $B=\sqrt{ } 9$
Side $C=\sqrt{ } 1$
At angle 360/19 degrees (corrected) with 90 degrees closure angle
Side $A=\sqrt{ } 9$
Side $B=\sqrt{ } 10$ (hypotenuse)
Side $C=\sqrt{ } 0.9$ (1)

$$
\left(\frac{361}{19}\right)-\left(\frac{360}{19}\right)=\frac{1}{19}
$$

These diagrams are self explanatory and correct at $1: 3$ constant. Please note the specifics of $1: 3$, and the fact that Prime number cannot be translated into topology/geometry except at the base, because of the different planes of the dimensions of the fixed prime numbers

## 3 Methods

All of the prime number understanding is based on the published and referenced manuscripts that are pristine discoveries of the author. We have focused on the method rather than short cut equation, since this is a new mathematics. The keel of the equations are derived from the value $18(5+6+7)$, at $1: 3$, modulation by $5,6,7$, and prime diversion 1:3 by trigonometry. The method is premised on the $1: 3$, the $0.5 / 60$ as -1 value and $1 / 60$ as 1 value for space. 6 is the equalizing value for empty space

## 4 Conclusion

There is clear evidence that prime numbers are placed in a predictable divergent manner, with precise mathematics, these relationships being infinite. The number has specific position in various planes and dimension, and that is the reason that aside from the Chan point base they are not translatable into topology and geometry
The divergence by numbers is based on a divergence of $1: 3$, and the hypotenuse at $360 / 19$ degrees $(90 / 4.75)$, which by pure trigonometry unifies numbers with trigonometry, by the proportion $19(9+10)$ and by the Proportions 3 and 1 . The other precise standards are 90 degrees and $\sqrt{ } 2$ and 60 degrees $(=1)$. All numbers are designated by their relationship to the half line.

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## Diagrams:

These are self explanatory and correct at $1: 3$ constant. Please note the specifics of $1: 3$, and the fact that Prime number cannot be translated into topology/geometry except at the base, because of the different planes of the dimensions of the fixed prime numbers

## Chan point

$(19 / 6 / 7)+(23 / 6 / 7)=1$
$(7 / 5 / 6)+(19 / 5 / 6)=1$
$19-5=14$
$23-7=16$


Fig. 3

PLATE 3 UNIQUENESS OF INVERSE 19 (1:3) DIVERGENCE/CONVERGENCE
Representation


19 Degrees (18.9248ㅇ)

$$
\frac{57}{19}=3
$$

Only inverse 19 angle is porportionte to numbers that diverge exactly by precise proportion of numbers value at 1:3
(Graph by PJM)


Fig. 4

B Hypotenuse (1:3) at $\frac{360^{\circ}}{19}$ (Closed)

$$
\begin{aligned}
\frac{4}{(360 / 19)} & =0.211111111111 \\
\frac{10}{9}-\frac{9}{10} & =0.21111111111 \\
\frac{\sqrt{9}}{\sqrt{10}} & =\sqrt{0.9} \\
\sqrt{10} \times \frac{0.9}{3} & =\sqrt{0.9}
\end{aligned}
$$

C Open Value 1:3 at $\frac{360+1}{19}$

$$
\begin{aligned}
\frac{57}{3} & =19^{\circ} \\
\frac{30}{90} \times 57^{\circ} & =19^{\circ}
\end{aligned}
$$



Fig 5

