

Title: 17-Golden Pattern
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Abstract: This paper develops the divisibility of the so-called **Simple Primes numbers-17**, the discovery of a pattern to infinity, the demonstration of the inharmonics that are 2,3,5,7,11,13,17 and the harmony of 1. The discovery of infinite harmony represented in fractal numbers and patterns. This is a family before the prime numbers. This paper develops a formula to get simple prime number-17 and simple composite number-17
The simple prime numbers-17 are known as the **19-rough numbers**.

Keywords: Golden Pattern, 19-Rough number, divisibility, Prime number, composite number.

Simple Prime Number-17

In order to understand how simple Primes numbers work in this text, the approach is partial, only use divisible digits from 1 to 17. For a number to be considered Simple Prime number-17 by dividing it by 2, 3, 4, 5,6,7,8,9,10,11,12,13,14,15,16,17 must give a decimal result.

Simple Prime numbers-17 are those that are only divisible by themselves and by unity. Those that can be divided by other numbers from (2 to 17) are called Simple composite number-17

Positive integers that have no prime factors less than 19.

Simple Prime Number $\in \mathbb{Z}$

The simple prime numbers-17 maintain equivalent proportions in the positive numbers and also in the negative numbers. In this paper the demonstrations are made with numbers $\in \mathbb{N}$

Introduction

This work is the continuation of the **Golden Pattern** papers published in <http://vixra.org/abs/1801.0064>, in which the discovery of a pattern for simple prime numbers has been demonstrated (For a number to be considered Simple Prime number-7 by dividing it by 2, 3, 4, 5, 6, 7, 8, 9, must give a decimal result.). If it resulted in integers numbers, it would be simple composite number-7.

Reference [A008364](#) The On-Line Encyclopedia of Integer Sequences.

In this paper we continue to develop demonstrations in which it is easy to see and with very simple accounts that the simple prime numbers of the 17-Golden Pattern maintain impressive proportions and equivalences.

All the numbers are kept in a precise order, forming equivalent sums and developing an infinite harmony.

Special cases

In this text the $N^\circ 2, 3, 5, 7, 11, 13, 17$ are not Simple Prime number-17. The calculations and proportions prove it and its reductions also. We can observe in the table that these numbers are simple composite number-17 since in the following patterns they work in that way.

The number 1 is a Simple prime number-17. It is a number that generates balance and harmony, it is a necessary number, it is the first number of the pattern, but it is also the representative of the first number of each pattern to infinity.

Graph 3 and 4 of this paper demonstrate this.

[A166061](#) Reference The On-Line Encyclopedia of Integer Sequences.

The 1 is Simple Prime Number, since the subsequent reductions in the Patterns to infinity in its place always reduce to 1 and maintain a precise equivalence and proportions.

1.531.531= 1 This is the first Number of Pattern 2

3.063.061 = 1 This is the first Number of Pattern 3

The sums of the digits of these examples are 1.

1+5+3+1+5+3+1=19=1+9=**10** =1+0= **1**

3+0+6+3+0+6+1=19=1+9=**10** =1+0= **1**

Construction of the 17-Golden Pattern

The product of the prime numbers up to number 17 inclusive, multiplied by 3, generates a result that indicates how many numbers there are in the 17-Golden Pattern. (The number 3 arises from the 3 different reductions that occur in each of its sequences: in **A**=6 * n + 1 (reductions 1,4,7) in **B**=6 * n-1 (reductions 2,5,8)

Example

$$(2*3*5*7*11*13*17)*3 = 510.510*3 = \mathbf{1.531.530}$$

17-Golden Pattern

The pattern found is from 1 to 1.531.530. It repeats itself to infinity respecting that proportion every 1.531.530 numbers. The 17-Golden Pattern is formed by a rectangle of 6 columns x 255.255 rows.

The simple prime numbers-17 fall in only two columns in the one of the 1 (Column A) and the one of the (column B) They are painted yellow. The rest of the columns are simple composite numbers-17. These are painted by red color.

The 17-Golden Pattern is divided into three Triplet Sectors. From 1 to 510.510, from 510.511 to 1.021.020 and from 1.021.021 to 1.531.530 proportional. These are identical, the only variable are their reductions. Which combine to the left in combinations of 1,4,7 and to the right in combinations of 2,5,8. We can see that each sector works as a pattern with the following. The same happens with the 17-Golden Pattern.

Example:

17-Golden Pattern (1 to 1.531.530)

Sector 1 (1 to 510.510)

Sector 2 (510.511 to 1.021.020)

Sector 3 (1.021.021 to 1.531.530)

Red: Reduction (sum of the digits of simple prime numbers-17)

Sector 1 (1 to 510.510)								Sector 2 (510.511 to 1.021.020)							
Red	A		B				Red	Red	A		B				Red
1	1	2	3	4	5	6		4	510511	510512	510513	510514	510515	510516	
	7	8	9	10	11	12			510517	510518	510519	510520	510521	510522	
	13	14	15	16	17	18			510523	510524	510525	510526	510527	510528	
1	19	20	21	22	23	24	5	4	510529	510530	510531	510532	510533	510534	8
	25	26	27	28	29	30	2		510535	510536	510537	510538	510539	510540	5
4	31	32	33	34	35	36		7	510541	510542	510543	510544	510545	510546	
1	37	38	39	40	41	42	5	4	510547	510548	510549	510550	510551	510552	8
7	43	44	45	46	47	48	2	1	510553	510554	510555	510556	510557	510558	5
	49	50	51	52	53	54	8		510559	510560	510561	510562	510563	510564	2
	55	56	57	58	59	60	5		510565	510566	510567	510568	510569	510570	8
7	61	62	63	64	65	66		1	510571	510572	510573	510574	510575	510576	
4	67	68	69	70	71	72	8	7	510577	510578	510579	510580	510581	510582	2
1	73	74	75	76	77	78		4	510583	510584	510585	510586	510587	510588	
7	79	80	81	82	83	84	2	1	510589	510590	510591	510592	510593	510594	5
	85	86	87	88	89	90	8		510595	510596	510597	510598	510599	510600	2
	91	92	93	94	95	96			510601	510602	510603	510604	510605	510606	
7	97	98	99	100	101	102	2	1	510607	510608	510609	510610	510611	510612	5
4	103	104	105	106	107	108	8	7	510613	510614	510615	510616	510617	510618	2
1	109	110	111	112	113	114	5	4	510619	510620	510621	510622	510623	510624	8
	115	116	117	118	119	120			510625	510626	510627	510628	510629	510630	

Continue to 510.510

Continue to 1.021.020

Sector 3 (1.021.021 to 1.531.530)							
Red	A			B			Red
7	1021021	1021022	1021023	1021024	1021025	1021026	
	1021027	1021028	1021029	1021030	1021031	1021032	
	1021033	1021034	1021035	1021036	1021037	1021038	
7	1021039	1021040	1021041	1021042	1021043	1021044	2
	1021045	1021046	1021047	1021048	1021049	1021050	8
1	1021051	1021052	1021053	1021054	1021055	1021056	
7	1021057	1021058	1021059	1021060	1021061	1021062	2
4	1021063	1021064	1021065	1021066	1021067	1021068	8
	1021069	1021070	1021071	1021072	1021073	1021074	5
	1021075	1021076	1021077	1021078	1021079	1021080	2
4	1021081	1021082	1021083	1021084	1021085	1021086	
1	1021087	1021088	1021089	1021090	1021091	1021092	5
7	1021093	1021094	1021095	1021096	1021097	1021098	
4	1021099	1021100	1021101	1021102	1021103	1021104	8
	1021105	1021106	1021107	1021108	1021109	1021110	5
	1021111	1021112	1021113	1021114	1021115	1021116	
4	1021117	1021118	1021119	1021120	1021121	1021122	8
1	1021123	1021124	1021125	1021126	1021127	1021128	5
7	1021129	1021130	1021131	1021132	1021133	1021134	2
	1021135	1021136	1021137	1021138	1021139	1021140	

Continue to 1.531.530

Graphic Table 1

In each **Sector** there are 92.160 simple prime numbers-17. And in the Total Pattern there is the triple, Then there are 276.480 Simple Primes numbers-17.
 Nps= Simple Prime Numbers-17

In columns A there are composite numbers greater than 3 and simple prime numbers under the sequence $6 * n + 1$
 In column B there are composite numbers greater than 3 and simple prime numbers under the sequence $6 * n - 1$

Throughout this text we will work with these two columns mainly.

1) Addition Simple Primes Number-17 by Sector.

Nps= Simple prime Numbers-17

$$\text{Sector 1 } \sum_{Nps \geq 1}^{510.510} 92.160 \text{ Simple prime numbers} - 17 = 23.524.300.800$$

$$\text{Sector 2 } \sum_{Nps \geq 510.511}^{1.021.020} 92.160 \text{ Simple prime numbers} - 17 = 70.572.902.400 \quad \text{Difference } 47.048.601.600$$

$$\text{Sector 3 } \sum_{Nps \geq 1.021.021}^{1.531.530} 92.160 \text{ Simple prime numbers} - 17 = 117.621.504.000 \quad \text{Difference } 47.048.601.600$$

Total

$$17 - \text{Golden Pattern} \sum_{Nps \geq 1}^{1.531.530} 276.480 \text{ Simple Prime numbers} - 17 = 211.718.707.200$$

Conclusion 1

Each SECTOR is multiple x3, x5 with respect to the first. Also to infinity if we are adding 510.510 next numbers (x7, x9, x11, etc.)

The differences 47.048.601.600 are repeated for every 510.510 numbers. The difference is equal to the sum of **simple prime number-17 of Sector 1** by two.

The total is equal to the sum of **simple prime number-17 of Sector 1** by 9.

$$\text{Total } 211.718.707.200 = 23.524.300.800 * 9$$

$$\text{Diff } 47.048.601.600 = 510.510 * 92160$$

2) Addition of Composite numbers-17 by Sector (only composite numbers divisible by numbers greater than 3, column A, B)

Nc= Composite Numbers-17

$$\text{Sector 1} \sum_{Nc \geq 1}^{510.510} 78.010 \text{ Composite numbers} - 17 = 19.912.442.550$$

$$\text{Sector 2} \sum_{Nc \geq 510.511}^{1.021.020} 78.010 \text{ Composite numbers} - 17 = 59.737.327.650 \quad \text{Difference } 39.824.885.100$$

$$\text{Sector 3} \sum_{Nc \geq 1.021.021}^{1.531.530} 78.010 \text{ Composite numbers} - 17 = 99.562.212.750 \quad \text{Difference } 39.824.885.100$$

Total

$$17 - \text{Golden Pattern} \sum_{Nc \geq 1}^{1.531.530} 234.030 \text{ Composite numbers} - 17 = 179.211.982.950$$

Conclusion 2

Each SECTOR is multiple x3, x5 with respect to the first. Also to infinity if we are adding 510.510 next numbers (x7, x9, x11, etc.).

The difference 39.824.885.100 are repeated for every 510.510 numbers. The difference is equal to the sum of **simple composite number-17 of Sector 1** by 2.

The total is equal to the sum of **simple composite number-13 of Sector 1** by 9.

$$\text{Total} = 179.211.982.950 = 19.912.442.550 * 9$$

$$\text{Diff} = 510.510 * 78.010 = 39.824.885.100$$

17-Golden Pattern, Simple Prime number-17

We can observe how the numbers are arranged in two columns, to the left the simple prime numbers-17 are reduced to combinations of 1,4,7 (column A) and to the right to combinations of 2,5,8 (column B). The reductions are formed by the sum of their digits.

This pattern works every 1.531.530 numbers. This works to infinity. If we started from 1.531.531 we would obtain the following table up to 3.063.060 in which we would find that the locations of the yellow colors (simple prime numbers-17) and red (Simple composite numbers-17) coincide in 100% of the cases.

The 17-Golden pattern keeps the colors in the same location and also the numbers match their reductions.

Example

1=1
 1.531.531=1

Red: Reduction (sum of the digits of simple prime numbers-17)

A= (6n+1)

B= (6n-1)

17-golden Pattern (1 to 1.531.530)							Next Pattern (1.531531 to 3.063.060)								
Red	A			B			Red	Red	A			B			Red
1	1	2	3	4	5	6		1	1531531	1531532	1531533	1531534	1531535	1531536	
	7	8	9	10	11	12			1531537	1531538	1531539	1531540	1531541	1531542	
	13	14	15	16	17	18			1531543	1531544	1531545	1531546	1531547	1531548	
1	19	20	21	22	23	24	5	1	1531549	1531550	1531551	1531552	1531553	1531554	5
	25	26	27	28	29	30	2		1531555	1531556	1531557	1531558	1531559	1531560	2
4	31	32	33	34	35	36		4	1531561	1531562	1531563	1531564	1531565	1531566	
1	37	38	39	40	41	42	5	1	1531567	1531568	1531569	1531570	1531571	1531572	5
7	43	44	45	46	47	48	2	7	1531573	1531574	1531575	1531576	1531577	1531578	2
	49	50	51	52	53	54	8		1531579	1531580	1531581	1531582	1531583	1531584	8
	55	56	57	58	59	60	5		1531585	1531586	1531587	1531588	1531589	1531590	5
7	61	62	63	64	65	66		7	1531591	1531592	1531593	1531594	1531595	1531596	
4	67	68	69	70	71	72	8	4	1531597	1531598	1531599	1531600	1531601	1531602	8
1	73	74	75	76	77	78		1	1531603	1531604	1531605	1531606	1531607	1531608	
7	79	80	81	82	83	84	2	7	1531609	1531610	1531611	1531612	1531613	1531614	2
	85	86	87	88	89	90	8		1531615	1531616	1531617	1531618	1531619	1531620	8
	91	92	93	94	95	96			1531621	1531622	1531623	1531624	1531625	1531626	
7	97	98	99	100	101	102	2	7	1531627	1531628	1531629	1531630	1531631	1531632	2
4	103	104	105	106	107	108	8	4	1531633	1531634	1531635	1531636	1531637	1531638	8
1	109	110	111	112	113	114	5	1	1531639	1531640	1531641	1531642	1531643	1531644	5
	115	116	117	118	119	120			1531645	1531646	1531647	1531648	1531649	1531650	

Continue to 1.531.530

Continue to 3.063.060

Graph table 2

Reference [A166061](#)The On-Line Encyclopedia of Integer Sequences

The product of two 17simple prime numbers is always a 17-simple prime numbers. Located within the sequence (6 * n-1) with reduction 2,5,8.

3) Simple Prime Numbers-17 by Pattern

Nps= Simple Prime Numbers-17

$$17 - \text{Golden Pattern } \sum_{Nps \geq 1}^{1.531.530} 276.480 \text{ Simple Prime numbers} - 17$$

$$\text{Pattern 2 } \sum_{Nps \geq 1}^{3.063.060} 552.960 \text{ Simple Prime numbers} - 17$$

$$\text{Pattern 3 } \sum_{Nps \geq 1}^{4.594.590} 829.440 \text{ Simple Prime Numbers} - 17$$

Conclusion 3

It is repeated to infinity every 1.531.530 numbers. The 17-Golden Pattern is multiplied by x2, x3, x4, x5, etc with respect to the following patterns.

4) Addition Simple Primes Numbers-17 by Pattern

Nps= Simple Prime Numbers-17

17 – Golden Pattern $\sum_{Nps \geq 1}^{1.531.530} = 211.718.707.200$

Diff 423.437.414.400

Pattern 2 $\sum_{Nps \geq 1.531.530}^{3.063.060} = 635.156.121.600$

Difference with the 17 – Golden Pattern is x3

Diff 423.437.414.400

Pattern 3 $\sum_{Nps \geq 3.063.061}^{4.594.590} = 1.058.593.536.000$

Difference with the 17 – Golden Pattern is x5

Conclusion 4

The model continues to multiply and is repeated to infinity every 1.531.530 numbers. (Odd Multiples for totals, x3, x5, x7,x9, etc.)

The difference is repeated for every 1.531.530 numbers.

The difference is equal to the sum of simple prime number-17 of 17-Golden Pattern by two.

Diff=1.531.530*276.480=423.437.414.400

5) Addition Simple Primes Numbers-17 by Pattern in total

Nps= Simple Prime Numbers-17

276.480 simple prime number in 17 – Golden Pattern $\sum_{Nps \geq 1}^{1.531.530} = 211.718.707.200$

Diff. $211.718.707.200 * 3 = 635.156.121.600$

552.960 simple prime number – 17 to Pattern 2 $\sum_{Nps \geq 1}^{3.063.060} = 846.874.828.800$

Difference with the 17 – Golden Pattern is x 4

Diff. $211.718.707.200 * 5 = 1.058.593.536.000$

829.440 simple prime number – 17 to Pattern 3 $\sum_{Nps \geq 1}^{4.594.590} = 1.905.468.364.800$

Difference with the 17 – Golden Pattern is x 9

Diff. $211.718.707.200 * 7 = 1.482.030.950.400$

1.105.920 simple prime number – 13 to Pattern 4 $\sum_{Nps \geq 1}^{6.126.120} = 3.387.499.315.200$

Difference with the 17 – Golden Pattern is x 16

Conclusion 5

The model continues to multiply and is repeated to infinity every 1.531.530 numbers. (Odd Multiples for totals, x4, x9, x16, x25, etc.).

The differences work with the formula x^2

Example

17-Golden Pattern $1^2 = 1$

Pattern 2= $2^2=4$

Pattern 3= $3^2 = 9$

Pattern 4= $4^2 = 16$

Pattern 5= $5^2= 25$

6) Addition of Composite numbers-17 by Pattern (only composite numbers divisible by numbers greater than 3)

Nc= Composite Numbers-17

$$17 - \text{Golden Pattern } \sum_{Nc \geq 1}^{1.531.530} 234.030 \text{ composite number} - 17 = 179.211.982.950$$

Diff 358.423.965.900

$$\text{Pattern 2 } \sum_{Nc \geq 1.531.531}^{3.063.060} 234.030 \text{ composite number} - 17 = 537.635.948.850$$

Difference with the 17 – Golden Pattern is x3

Diff 358.423.965.900

$$\text{Pattern 3 } \sum_{Nc \geq 3.063.061}^{4.594.590} 234.030 \text{ composite number} - 17 = 896.059.914.750$$

Difference with the 17 – Golden Pattern is x5

Conclusion 6

There is also a difference between each Pattern of 358.423.965.900. These is equal to the sum of the numbers composite-17 (17-Golden Pattern) by 2.

We could keep multiplying, x7, x9, x11, etc. To infinity every 1.531.530 more numbers.

Diff=1.531.530*324.030=358.423.965.900

7) Addition of composite Numbers-17 by Pattern in total, (only composite numbers divisible by numbers greater than 3)

Nc= Composite Numbers-17

$$234.030 \text{ Composite number in 17 – Golden Pattern } \sum_{Nc \geq 1}^{1.531.530} = 179.211.982.950$$

Diff $179.211.982.950 * 3 = 537.635.848.850$

$$468.060 \text{ Composite number} - 17 \text{ to Pattern 2 } \sum_{Nc \geq 1}^{3.063.060} = 716.847.931.800$$

Difference with the 17 – Golden Pattern is x 4

Diff $179.211.982.950 * 5 = 896.059.914.750$

$$702.090 \text{ Composite number} - 17 \text{ to Pattern 3 } \sum_{Nc \geq 1}^{4.594.590} = 1.612.907.846.550$$

Difference with the 17 – Golden Pattern is x 9

Diff $179.211.982.950 * 7 = 1.254.483.880.650$

936.120 Composite number – 17 to Pattern 4 $\sum_{Nc \geq 1}^{6.126.120} = 2.867.391.727.200$

Difference with the **17 – Golden Pattern** is **x 16**

Conclusion 7

The number of composite number-17 is related to the next pattern every 1.531.530 more numbers.

The model continues to multiply and is repeated to infinity every 1.531.530 numbers. (Odd Multiples for totals, x4, x9, x16, x25, etc.).

The differences work with the formula x^2

Example

17-Golden Pattern $1^2 = 1$

Pattern 2= $2^2=4$

Pattern 3= $3^2 = 9$

Pattern 4= $4^2 = 16$

Pattern 5= $5^2= 25$

Demonstration 1

Formula to get simple prime number-17

Example and demonstration of the formula is divided into 2 columns.

On the left we will calculate the simple prime number-17 located in (A), on the right we will calculate the prime numbers-17 located in (B).

$P_{17(A)} = S. Prime\ numbers - 17\ in\ column(A)$ $Z = numbers \geq 0$	$P_{17(B)} = S. Prime\ numbers - 17\ in\ column(B)$ $Z = numbers \geq 0$
$P_{17(A)} = (6 * n \begin{matrix} n \geq 0 \\ n \neq 1 \\ n \neq 2 \\ n \neq 4+5*Z \\ n \neq 8+7*Z \\ n \neq 9+11*Z \\ n \neq 15+13*Z \\ n \neq 14+17*Z \end{matrix} + 1)$ <p>$n \neq 1,2,4,8,9,14,15,19,20,22, \dots$</p> <p>Using values correct for: $n = 0,3,5,6,7,10,11,12, \dots$</p> <p>We get the following Simple prime numbers-17.</p> $P_{17(A)} = 1,19,31,37,43,49,61,67,73, \dots$	$P_{17(B)} = (6 * n \begin{matrix} n > 3 \\ n \neq 6+5*Z \\ n \neq 6+7*Z \\ n \neq 13+11*Z \\ n \neq 11+13*Z \\ n \neq 20+17*Z \end{matrix} - 1)$ <p>$n \neq 6,11,13,16,20,21, \dots$</p> <p>Using correct values for $n = 4,5,7,8,9,10,12,13,14,15, \dots$</p> <p>We get the following Simple prime numbers-17.</p> $P_{17(B)} = 23,29,41,47,53,59,71,83,89, \dots$

The formula for calculating the Simple Prime numbers-17 is based on Zeolla Gabriel's paper on how to obtain prime numbers. <http://vixra.org/abs/1801.0093>

Reference [A166061](#) The On-Line Encyclopedia of Integer Sequences

Demonstration 2

Formula to get simple composite number-17

Example and demonstration of the formula is divided into 2 columns.

On the left we will calculate the simple composite number-17 located in (A), on the right we will calculate the composite numbers-17 located in (B).

$Nc_{17(A)} = S. \text{ Composite numbers} - 17$ <p>in column(A) $Z = \text{numbers} \geq 0$</p>	$Nc_{17(B)} = S. \text{ Composite numbers} - 17$ <p>in column (B) $Z = \text{numbers} \geq 0$</p>
$Nc_{17(A)} = (6 * n \begin{matrix} n=1 \\ n=2 \\ n=4+5*Z \\ n=8+7*Z \\ n=9+11*Z \\ n=15+13*Z \\ n=14+17*Z \end{matrix} + 1)$ <p>$n = 1,2,4,8,9,14,15,19, \dots$</p> <p>We get the following S. Composite numbers-17.</p> $Nc_{17(A)} = 7,13,25,49,55,85,91,115, \dots$	$Nc_{17(B)} = (6 * n \begin{matrix} n=1 \\ n=2 \\ n=3 \\ n=6+5*Z \\ n=6+7*Z \\ n=13+11*Z \\ n=11+13*Z \\ n=20+17*Z \end{matrix} - 1)$ <p>$n = 1,2,6,11,13,16,20,21, \dots$</p> <p>We get the following S. Composite numbers-17.</p> $Nc_{17(B)} = 5,11,17,35,65,77,95,119,125, \dots$

The formula for calculating the Simple composite numbers-17 is based on Zeolla Gabriel's paper on how to obtain prime numbers and composite numbers. <http://vixra.org/abs/1801.0093>

Final conclusion

The 17-Golden Pattern is the confirmation of an order to infinity in equilibrium, each column is in harmony and balance with the other, the demonstration of the inharmony of 2, 3, 5, 7, 11, 13, 17 is very great. The number 1 is necessary and generates balance. Simple Prime Numbers-17 are a family prior to the Classical Prime Numbers.

The sum of the composite numbers-17 and the simple prime numbers-17 demonstrate incredible proportions that indicate that they have a fractal behavior.

The reductions of the 17-Golden Pattern are infinitely repeated every 1.531.530 numbers.

The proportions of the 17-Golden pattern are exactly equal and proportional to the 7-golden pattern.

(<http://vixra.org/abs/1801.0064>), and other patterns with different prime numbers, 3-Golden Pattern, 5-Golden Pattern, 11-Golden Pattern, 13-Golden Pattern, etc.

The formula for obtaining the simple Prime numbers-17 and composite number-17 works successfully, we only have to condition (n) to obtain the expected results.

I can affirm that there are infinite different patterns with different prime divisors, which maintain a great harmony between columns A, B, they are always in balance, they present infinite proportions, fractal symmetries, All patterns have the same procedure. They are all different and they are very linked.

This Paper is extracted from my book The Golden Pattern II
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References

Enzo R. Gentile, Elementary arithmetic (1985) OEA.

Burton W. Jones, Theory of numbers

Iván Vinogradov, Fundamentals of Number Theory

Niven y Zuckermann, Introduction to the theory of numbers

Dickson L. E., History of the Theory of Numbers, Vol. 1

Zeolla Gabriel Martin, Golden Pattern. <http://vixra.org/abs/1801.0064>

Zeolla Gabriel Martin, Expression to get Prime Numbers and Twin Prime Numbers, <http://vixra.org/abs/1801.0093>

Zeolla Gabriel Martin, 5-Golden Pattern. <http://vixra.org/abs/1802.0201>

Zeolla Gabriel Martin, 7-Golden Pattern, Formula to Get the Sequence. <http://vixra.org/abs/1801.0381>

Zeolla Gabriel Martin, 11-Golden Pattern. <http://vixra.org/abs/1802.0236>

Zeolla Gabriel Martin, 13-Golden Pattern. <http://vixra.org/abs/1802.0363>

The On-Line Encyclopedia of Integer Sequences <https://oeis.org/A166061>

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