

## Gold bach conjecture never can be easy to solve

With attention to Gold Bach table lists for even numbers basis on  $\{ X - [(P_n)^2 + (P_n * y)] = P_m \}$  we will find that the solving of this conjecture via the mentioned way [Gold Bach table lists for even numbers basis on  $\{ X - [(P_n)^2 + (P_n * y)] = P_m \}$ ] is **equivalent** to determining the quantity of primes in vertical columns of a Gold Bach table list for given even numbers

$$X - [(P_n)^2 + (P_n * y)] = P_m$$

In up mentioned equation

$\{ X \}$ , are given even numbers for Gold Bach partition

$\{ P_n \}$ , are set of the primes in interval  $\{3, \sqrt{X}\}$   $\{ P_2 = 3, P_3 = 5, P_4 = 7, P_5 = 11, \dots, P_n \leq \sqrt{X} \}$

$\{ P_m \}$ , are set of the primes in interval  $\{3, X\}$   $\{ P_2 = 3, P_3 = 5, P_4 = 7, P_5 = 11, \dots, P_m \leq X \}$

$\{ y \}$ , are set of the even numbers  $\{ 0, 2, 4, 6, \dots, etc \}$

**In Gold Bach table lists there are columns for each of the prim numbers  $\{ P_n \leq \sqrt{X} \}$**

The important property and specialty of Gold Bach equation or [Gold Bach table list basis on  $\{ X - [(P_n)^2 + (P_n * y)] = P_m \}$ ] is; the primes,  $\{ P_m \leq X \}$  that are product and result of Gold Bach equation,  $\{ X - [(P_n)^2 + (P_n * y)] = P_m \}$  never can be written as a Gold Bach partition basis on given number,  $\{ X \}$

For example:

$$X - [(P_n)^2 + (P_n * y)] = P_m \rightarrow 202 - [(P_5)^2 + (P_5 * 4)] = P_{12} \rightarrow 202 - [(11)^2 + (11 * 4)] = 37$$

$$202 - 165 = 37 \rightarrow 202 = 165 + 37 \rightarrow X = \text{composite} + \text{prim} \rightarrow \{ X = \text{composite} + \text{prim} \} = \text{un Gold Bach partition}$$

**And vice versa of it**

$$X - [(P_n)^2 + (P_n * y)] \neq P_m \rightarrow 202 - [(P_7)^2 + (P_7 * 4)] \neq P_m \rightarrow 202 - [(7)^2 + (7 * 4)] \neq 53$$

$$202 - 149 = 53 \rightarrow 202 = 149 + 53 \rightarrow X = \text{prim} + \text{prim} \rightarrow \{ X = \text{prim} + \text{prim} \} = \text{Gold Bach partition}$$

**Then the Gold Bach conjecture can be express:**

There is not any given number  $\{ X > 4 \}$  witch can product and generate all primes  $\{ P_m \leq X \}$  in interval  $\{3, X\}$  basis on  $\{ X - [(P_n)^2 + (P_n * y)] = P_m \}$

Now for proving above expression we should know how many of primes in interval  $\{3, X\}$  can be presence in a Gold Bach table list for given number  $\{ X \}$  basis on  $\{ X - [(P_n)^2 + (P_n * y)] = P_m \}$

For example below are two columns basis on  $\{ X - [(P_n)^2 + (P_n * y)] = P_m \}$  for the given number  $\{ X = 7796 \}$  in case  $\{ P_4 = 7 \}$  and  $\{ P_5 = 11 \}$  as  $\{ 7796 - [(7)^2 + (7 * y)] = P_m \}$  and  $\{ 7796 - [(11)^2 + (11 * y)] = P_m \}$

$$x - [(P_x)^2 + (P_y * y)] = P_{xx} \rightarrow 7796 - [(7)^2 + (7 * y)] = P_{xx}$$

7747					61		
7705	5		23			67	
7663							79
7621							
7579	11	13			53		
7537							
7495	5						
7453			29				
7411							
7369							
7327		17					
7285	5		31		47		
7243							
7201			19				
7159							
7117	11						
7075	5						
7033		13					
6991							
6949							
6907	5						
6865							
6823							
6781							
6739			23				
6697					37		
6655	5	11					
6613			17				
6571							
6529							
6487	5	13					
6445			19				
6403							
6361							
6319					71		
6277							
6235	5		29		43		
6193		11					
6151							
6109					41		
6067	5						
6025					31		
5983							
5941		13					
5899			17				
5857	5						
5815			23				
5773							
5731	11						
5689							
5647							
5605	5		19			59	
5563							
5521							
5479							
5437							
5395	5	13					83
5353					53		
5311					47		
5269	11						
5227							
5185	5		17			61	
5143					37		
5101							
5059							
5017			29				
4975	5						
4933							
4891						67	73
4849							
4807	11	13	19	23			
4765	5						
4723							
4681			31				
4639							
4597							
4555	5						
4513							
4471		17					
4429							
4387					41	43	
4345	5	11					79
4303			13				
4261							
4219							
4177							
4135	5						
4093							
4051							
4009			19				
3967							
3925	5						
3883		11					
3841			23				
3799				29			
3757							
3715	5	13	17				
3673							
3631							

$$x - [(P_x)^2 + (P_y * y)] = P_{xx} \rightarrow 7796 - [(11)^2 + (11 * y)] = P_{xx}$$

7675	5						
7609		7					
7543				19			
7477							
7411							
7345	5	13					
7279				29			
7213							
7147		7					
7081							73
7015	5		23			61	
6949							
6883							
6817				17			
6751						43	
6685	5	7					
6619							
6553							
6487		13					
6421							
6355	5			31	41		
6289			19				
6223	7						
6157						47	
6091							
6025	5						
5959						59	
5893							71
5827							83
5761	7						
5695	5	17					67
5629			13				
5563							
5497				23			
5431							
5365	5			29	37		
5299		7					
5233							
5167							
5101							
5035	5			19			53
4969							
4903							
4837	7						
4771		13					
4705	5						
4639							
4573				17			
4507							
4441							
4375	5	7					
4309					31		
4243							
4177							
4111							
4045	5						
3979		7	13	23			
3913						43	
3847							
3781				19			
3715	5						
3649						41	
3583							
3517							
3451	7	17		29			
3385	5						
3319							
3253							
3187							
3121							
3055	5	13				47	
2989							61
2923	7						79
2857						37	
2791							
2725	5						
2659							
2593							
2527	7		19				
2461				23			
2395	5						
2329					17		
2263						31	
2197					13		
2131							
2065	5	7					59
1999							
1933							
1867							
1801							
1735	5						
1669							
1603	7						
1537					29		53
1471							
1405	5						
1339		13					
1273							
1207				17	19		67
							71

3799  
3757  
3715  
3673  
3631  
3589  
3547  
3505  
3463  
3421  
3379  
3337  
3295  
3253  
3211  
3169  
3127  
3085  
3043  
3001  
2959  
2917  
2875  
2833  
2791  
2749  
2707  
2665  
2623  
2581  
2539  
2497  
2455  
2413  
2371  
2329  
2287  
2245  
2203  
2161  
2119  
2077  
2035  
1993  
1951  
1909  
1867  
1825  
1783  
1741  
1699  
1657  
1615  
1573  
1531  
1489  
1447  
1405  
1363  
1321  
1279  
1237  
1195  
1153  
1111  
1069  
1027  
985  
943  
901  
859  
817  
775  
733  
691  
649  
607  
565  
523  
481  
439  
397  
355  
313  
271  
229  
187  
145  
103  
61  
19

5 13 17 29  
5 37  
5 11 31 47 71  
5 13 19 53 59  
5 17  
5 11 23  
5 13 41 43 61  
5 11 19  
5 17  
5 13 31 67  
5 11 37  
5 23 83  
5 73  
5 11 17 19  
5 29 47  
5 11 13 79  
5 17 23 41 53  
5 19 31 43  
5 11 59  
5 13 37  
5 71  
5 11 17 29

1471  
1405  
1339  
1273  
1207  
1141  
1075  
1009  
943  
877  
811  
745  
679  
613  
547  
481  
415  
349  
283  
217  
151  
85  
19

5 13 19 67 71  
7 17  
5 43  
23 41  
5 811  
7 745 679  
5 613 547  
5 13 481 83  
5 415 349  
7 283 217 31  
5 17 85 19

As we can see in the right hand of the blue columns there are some small columns that are divisors of the values in the main blue columns, the divisors are prim numbers, and the values that have no any of the divisors in front of them are prim numbers

Now for determining the primes values in main blue columns we have some problems as down

- 1- The divisors are prim number and the primes are **irregular** set {at least, seemingly} then it is difficult to determine the next aim for the irregular numbers
- 2- The start line and jumping off place for each one of the divisors {as jumpers} are different and irregular that it makes double disordering { disordering in disordering } then it will not be possible to determine exact and precisely the quantity of un repeated primes in Gold Bach table list columns basis on  $\{X - [(P_n)^2 + (P_n * y)] = P_m\}$
- 3- For Gold Bach conjecture reason we should exactly and precisely know how many of un repeated primes are in a Gold Bach table list for given numbers  $\{X\}$ , in interval  $\{3, X\}$  but with the last found formula for determining the primes in interval  $\{1, X\}$  the mathematicians only have ability to determine the primes in interval  $\{1, X\}$  with a good **approximation** { **not precisely** } and this is in case of no irregular jumping off place

*For explaining the operation of divisors columns put each one of the divisors are as a locust { jumper insect } and each one of the locust have one of the prim numbers that it shows the quantity of the cells for each jump of the locusts*

*For minimizing the up mentioned columns only we show the numbers in form  $\{6n + 1\}$  because in table list for up mentioned example,  $\{X = 7796\} \rightarrow \{7796 = 6n + 2\}$  all of the primes in forms  $\{6n - 1\}$  and  $\{6n - 3\}$  in interval  $\{3, X\}$  are presence, {because the first column  $\{P_2 = 3\}$  have all numbers in form  $\{6n - 1\}$  in interval  $\{3, X\}$  then there is no any Gold Bach partition for primes in form  $\{6n - 1\}$  basis on  $\{X = 7796 = 6n + 2\}$  } therefore it is not necessary to determine the primes in form  $\{6n - 1\}$  for mentioned example and only determining primes in form,  $\{6n + 1\}$  will be enough }*

In the end, Gold Bach table list is a way for study about some theory numbers problems as Gold Bach conjecture and twin primes and etc

**The introduced way for study about Gold bach conjecture is one of the thousands ways for study about GB conjecture it shows clearly how the primes and GB partitions are forming among the numbers and also solving the GB conjecture depends to probability and randomness math; but also it can be as a climbing up the mountain via difficult or impossible path of it while there are many other paths for easy climbing in the mentioned mountain**

*The article and samples for Gold Bach table lists are available in web site {[mrserajian.ir](http://mrserajian.ir)}*

**Key words: Gold bach conjecture; Gold bach conjecture never can be easy to solve; Gold bach table;**

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8/6/2017