

Goldbach's conjecture

Toshiro Takami

mmm82889@yahoo.co.jp

Abstract

I proved the Goldbach's conjecture.

Even numbers are prime numbers and prime numbers added, but it has not been proven yet whether it can be true even for a huge number (forever huge number).

All prime numbers are included in $(6n - 1)$ or $(6n + 1)$ except 2 and 3 (n is a positive integer).

All numbers are executed in hexadecimal notation. This does not change even in a huge number (forever huge number).

The larger the even value, the more the number of twin primes that become even.

That is because the number of rotations of the hexagon increases.

Introduction

$(6n - 2)$

$(6n)$

$(6n + 2)$ in the figure are even numbers.

$(6n - 1)$

$(6n + 1)$

$(6n + 3)$ are odd numbers.

prime numbers are $(6n - 1)$ or $(6n + 1)$. Except 2 and 3. (n is positive integer).

The following is a prime number.

There are no prime numbers that are not $(6n - 1)$ or $(6n + 1)$.

2 ———

3 ———

5 ——— $6n - 1$ (Twin prime)

7 ——— $6n + 1$

11 ——— $6n - 1$ (Twin prime)

13 ——— $6n + 1$

17 ——— $6n - 1$ (Twin prime)

19 ——— $6n + 1$

23 ——— $6n - 1$

29 ——— $6n - 1$ (Twin prime)
31 ——— $6n + 1$
37 ——— $6n + 1$
41 ——— $6n - 1$ (Twin prime)
43 ——— $6n + 1$
47 ——— $6n - 1$
53 ——— $6n - 1$
59 ——— $6n - 1$
61 ——— $6n + 1$
67 ——— $6n + 1$
71 ——— $6n - 1$ (Twin prime)
73 ——— $6n + 1$
79 ——— $6n + 1$
83 ——— $6n - 1$
89 ——— $6n - 1$
97 ——— $6n + 1$
101 ——— $6n - 1$ (Twin prime)
103 ——— $6n + 1$
107 ——— $6n - 1$ (Twin prime)
109 ——— $6n + 1$
113 ——— $6n - 1$
127 ——— $6n + 1$
131 ——— $6n - 1$
137 ——— $6n - 1$ (Twin prime)
139 ——— $6n + 1$
149 ——— $6n - 1$ (Twin prime)
151 ——— $6n + 1$
157 ——— $6n + 1$
163 ——— $6n + 1$
167 ——— $6n - 1$
173 ——— $6n - 1$
179 ——— $6n - 1$ (Twin prime)
181 ——— $6n + 1$
191 ——— $6n - 1$ (Twin prime)
193 ——— $6n + 1$
197 ——— $6n - 1$ (Twin prime)
199 ——— $6n + 1$
211 ——— $6n + 1$
223 ——— $6n + 1$
227 ——— $6n - 1$ (Twin prime)
229 ——— $6n + 1$
233 ——— $6n - 1$
239 ——— $6n - 1$ (Twin prime)
241 ——— $6n + 1$
251 ——— $6n - 1$
257 ——— $6n - 1$
263 ——— $6n - 1$

269 ——— $6n - 1$ (Twin prime)
271 ——— $6n + 1$
277 ——— $6n + 1$
281 ——— $6n - 1$ (Twin prime)
283 ——— $6n + 1$
293 ——— $6n + 1$
307 ——— $6n + 1$
311 ——— $6n - 1$ (Twin prime)
313 ——— $6n + 1$
317 ——— $6n - 1$
331 ——— $6n + 1$
337 ——— $6n + 1$
347 ——— $6n - 1$ (Twin prime)
349 ——— $6n + 1$
353 ——— $6n - 1$
359 ——— $6n - 1$
367 ——— $6n + 1$
373 ——— $6n - 1$
379 ——— $6n + 1$
383 ——— $6n - 1$
389 ——— $6n - 1$
397 ——— $6n + 1$
401 ——— $6n - 1$
409 ——— $6n + 1$
419 ——— $6n - 1$ (Twin prime)
421 ——— $6n + 1$
431 ——— $6n - 1$ (Twin prime)
433 ——— $6n + 1$
439 ——— $6n + 1$
443 ——— $6n - 1$
449 ——— $6n - 1$
457 ——— $6n + 1$
461 ——— $6n - 1$ (Twin prime)
463 ——— $6n + 1$
467 ——— $6n - 1$
479 ——— $6n - 1$
487 ——— $6n + 1$
491 ——— $6n - 1$
499 ——— $6n + 1$
503 ——— $6n - 1$
509 ——— $6n - 1$
521 ——— $6n - 1$ (Twin prime)
523 ——— $6n + 1$
541 ——— $6n + 1$
547 ——— $6n + 1$
557 ——— $6n - 1$
563 ——— $6n - 1$

569 ——— $6n - 1$ (Twin prime)
571 ——— $6n + 1$
577 ——— $6n + 1$
587 ——— $6n - 1$
593 ——— $6n - 1$
599 ——— $6n - 1$ (Twin prime)
601 ——— $6n + 1$
607 ——— $6n + 1$
613 ——— $6n + 1$
617 ——— $6n - 1$ (Twin prime)
619 ——— $6n + 1$
631 ——— $6n + 1$
641 ——— $6n - 1$ (Twin prime)
643 ——— $6n + 1$
647 ——— $6n - 1$
653 ——— $6n - 1$
659 ——— $6n - 1$ (Twin prime)
661 ——— $6n + 1$
673 ——— $6n + 1$
677 ——— $6n - 1$
683 ——— $6n + 1$
691 ——— $6n + 1$
701 ——— $6n - 1$
709 ——— $6n + 1$
719 ——— $6n - 1$
727 ——— $6n + 1$
733 ——— $6n + 1$
739 ——— $6n + 1$
743 ——— $6n - 1$
751 ——— $6n + 1$
757 ——— $6n + 1$
761 ——— $6n - 1$
769 ——— $6n + 1$
773 ——— $6n - 1$
787 ——— $6n + 1$
797 ——— $6n - 1$
809 ——— $6n - 1$ (Twin prime)
811 ——— $6n + 1$
821 ——— $6n - 1$ (Twin prime)
823 ——— $6n + 1$
827 ——— $6n - 1$ (Twin prime)
829 ——— $6n + 1$
839 ——— $6n - 1$
853 ——— $6n + 1$
857 ——— $6n - 1$ (Twin prime)
859 ——— $6n + 1$
863 ——— $6n - 1$

877—— $6n+1$
 881—— $6n-1$ (Twin prime)
 883—— $6n+1$
 887—— $6n-1$
 907—— $6n+1$
 911—— $6n-1$
 919—— $6n+1$
 929—— $6n-1$
 937—— $6n+1$
 941—— $6n-1$
 947—— $6n-1$
 953—— $6n-1$
 967—— $6n-1$
 971—— $6n-1$
 977—— $6n-1$
 983—— $6n-1$
 991—— $6n+1$
 997—— $6n+1$
 1009—— $6n-1$
 1013—— $6n+1$
 1019—— $6n-1$ (Twin prime)
 1021—— $6n+1$
 1031—— $6n-1$ (Twin prime)
 1033—— $6n+1$
 1039—— $6n+1$
 1049—— $6n-1$ (Twin prime)
 1051—— $6n+1$
 1061—— $6n-1$ (Twin prime)
 1063—— $6n+1$
 1069—— $6n+1$
 1087—— $6n+1$
 1091—— $6n-1$ (Twin prime)
 1093—— $6n+1$
 1097—— $6n-1$
 1103—— $6n-1$
 1109—— $6n-1$
 1117—— $6n+1$
 1123—— $6n+1$
 1129—— $6n+1$
 1151—— $6n-1$ (Twin prime)
 1153—— $6n+1$

.....

.....

(Even numbers greater than 2 are all sums of two prime numbers, below)

(n is a positive integer)

$$4=2+2$$

$$6=3+3$$

$8 = 3 + (6n-1), 3+5, n=0,1$
 $10 = (6n-1) + (6n-1), 5+5, n=1,1$
 $12 = (6n-1) + (6n+1), 5+7, n=1,1$
 $14 = (6n+1) + (6n+1), 7+7, n=1,1$
 $16 = (6n-1) + (6n-1), 5+11, n=1,2$
 $18 = (6n+1) + (6n-1), 7+11, n=1,2$
 $20 = (6n+1) + (6n+1), 7+13, n=1,2$
 $22 = (6n-1) + (6n-1), 11+11, n=2,2$
 $24 = (6n-1) + (6n+1), 11+13, n=2,2$
 $26 = (6n+1) + (6n+1), 13+13, n=2,2$
 $28 = (6n-1) + (6n-1), 11+17, n=2,3$
 $30 = (6n-1) + (6n+1), 11+19, n=2,3$
 $32 = (6n+1) + (6n+1), 13+19, n=2,3$
 $34 = (6n-1) + (6n-1), 17+17, n=3,3$
 $36 = (6n-1) + (6n+1), 17+19, n=3,3$
 $38 = (6n+1) + (6n+1), 19+19, n=3,3$
 $40 = (6n-1) + (6n-1), 17+23, n=3,4$
 $42 = (6n+1) + (6n-1), 19+23, n=3,4$
 $44 = (6n+1) + (6n+1), 13+31, n=2,5$
 $46 = (6n-1) + (6n-1), 23+23, n=4,4$
 $48 = (6n+1) + (6n-1), 19+29, n=3,5$
 $50 = (6n+1) + (6n+1), 19+31, n=3,5$
 $52 = (6n-1) + (6n-1), 23+29, n=4,5$
 $54 = (6n-1) + (6n+1), 23+31, n=4,5$
 $56 = (6n+1) + (6n+1), 13+43, n=2,7$
 $58 = (6n-1) + (6n-1), 29+29, n=5,5$
 $60 = (6n-1) + (6n+1), 29+31, n=5,5$
 $62 = (6n+1) + (6n+1), 31+31, n=5,5$
 $64 = (6n-1) + (6n-1), 23+41, n=4,7$
 $66 = (6n-1) + (6n+1), 23+43, n=4,7$
 $68 = (6n+1) + (6n+1), 31+37, n=5,6$
 $70 = (6n-1) + (6n-1), 29+41, n=5,7$
 $72 = (6n+1) + (6n-1), 31+41, n=5,7$
 $74 = (6n+1) + (6n+1), 37+37, n=6,6$
 $76 = (6n-1) + (6n-1), 29+47, n=5,8$
 $78 = (6n+1) + (6n-1), 37+41, n=6,7$
 $80 = (6n-1) + (6n-1), 29+59, n=5,10$
 $82 = (6n-1) + (6n-1), 41+41, n=7,7$
 $84 = (6n-1) + (6n+1), 41+43, n=7,7$
 $86 = (6n+1) + (6n+1), 43+43, n=7,7$
 $88 = (6n-1) + (6n-1), 41+47, n=7,8$
 $90 = (6n-1) + (6n+1), 29+61, n=5,10$
 $92 = (6n+1) + (6n+1), 31+61, n=5,10$
 $94 = (6n-1) + (6n-1), 47+47, n=8,8$
 $96 = (6n-1) + (6n+1), 47+49, n=8,8$
 $98 = (6n+1) + (6n+1), 37+61, n=6,10$
 $100 = (6n-1) + (6n-1), 41+59, n=7,10$

$102=(6n-1)+(6n+1)$, 41+61, $n=7,10$
 $104=(6n+1)+(6n+1)$, 43+61, $n=7,10$
 $106=(6n-1)+(6n-1)$, 53+53, $n=9,9$
 $108=(6n-1)+(6n+1)$, 47+61, $n=8,10$
 $110=(6n+1)+(6n+1)$, 43+67, $n=7,11$
 $112=(6n-1)+(6n-1)$, 53+59, $n=9,10$
 $114=(6n-1)+(6n+1)$, 53+61, $n=9,10$
 $116=(6n+1)+(6n+1)$, 43+73, $n=7,12$
 $118=(6n-1)+(6n-1)$, 59+59, $n=10,10$
 $120=(6n-1)+(6n+1)$, 59+61, $n=10,10$
 $122=(6n+1)+(6n+1)$, 61+61, $n=10,10$
 $124=(6n-1)+(6n-1)$, 53+71, $n=9,12$
 $126=(6n-1)+(6n+1)$, 53+73, $n=9,12$
 $128=(6n+1)+(6n+1)$, 61+67, $n=10,11$
 $130=(6n-1)+(6n-1)$, 59+71, $n=10,12$
 $132=(6n-1)+(6n+1)$, 59+73, $n=10,12$
 $134=(6n+1)+(6n+1)$, 67+67, $n=11,11$
 $136=(6n-1)+(6n-1)$, 53+83, $n=9,14$
 $138=(6n-1)+(6n+1)$, 59+79, $n=10,13$
 $140=(6n+1)+(6n+1)$, 67+73, $n=11,12$
 $142=(6n-1)+(6n-1)$, 71+71, $n=12,12$
 $144=(6n-1)+(6n+1)$, 71+73, $n=12,12$
 $146=(6n+1)+(6n+1)$, 73+73, $n=12,12$
 $148=(6n-1)+(6n-1)$, 59+89, $n=10,15$
 $150=(6n-1)+(6n+1)$, 71+79, $n=12,13$
 $152=(6n+1)+(6n+1)$, 73+79, $n=12,13$
 $154=(6n-1)+(6n-1)$, 71+83, $n=12,14$
 $156=(6n+1)+(6n-1)$, 73+83, $n=12,14$
 $158=(6n+1)+(6n+1)$, 79+79, $n=13,13$
 $154=(6n-1)+(6n-1)$, 71+83, $n=12,14$
 $156=(6n+1)+(6n-1)$, 73+83, $n=12,14$
 $158=(6n+1)+(6n+1)$, 79+79, $n=13,13$
 $160=(6n-1)+(6n-1)$, 71+89, $n=12,15$
 $162=(6n-1)+(6n+1)$, 59+103, $n=10,17$
 $164=(6n+1)+(6n+1)$, 73+91, $n=12,15$
 $166=(6n-1)+(6n-1)$, 83+83, $n=14,14$
 $168=(6n-1)+(6n+1)$, 83+85, $n=14,14$
 $170=(6n+1)+(6n+1)$, 85+85, $n=14,14$
 $172=(6n-1)+(6n-1)$, 71+101, $n=12,17$
 $174=(6n-1)+(6n+1)$, 71+103, $n=12,17$
 $176=(6n+1)+(6n+1)$, 73+103, $n=12,17$
 $178=(6n-1)+(6n-1)$, 89+89, $n=15,15$
 $180=(6n-1)+(6n+1)$, 83+97, $n=14,16$
 $182=(6n+1)+(6n+1)$, 79+103, $n=13,17$
 $184=(6n-1)+(6n-1)$, 83+101, $n=14,17$
 $186=(6n-1)+(6n+1)$, 89+97, $n=15,16$
 $188=(6n+1)+(6n+1)$, 61+127, $n=10,21$

$190=(6n-1)+(6n-1)$, $89+101$, $n=15,17$
 $192=(6n-1)+(6n+1)$, $83+109$, $n=14,18$
 $194=(6n+1)+(6n+1)$, $97+97$, $n=16,16$
 $196=(6n-1)+(6n-1)$, $83+113$, $n=14,19$
 $198=(6n-1)+(6n+1)$, $89+109$, $n=15,18$
 $200=(6n+1)+(6n+1)$, $97+103$, $n=16,17$
 $202=(6n-1)+(6n-1)$, $101+101$, $n=17,17$
 $204=(6n-1)+(6n+1)$, $101+103$, $n=17,17$
 $206=(6n+1)+(6n+1)$, $103+103$, $n=17,17$
 $208=(6n-1)+(6n-1)$, $101+107$, $n=17,18$
 $210=(6n-1)+(6n+1)$, $101+109$, $n=17,18$
 $212=(6n+1)+(6n+1)$, $103+109$, $n=17,18$
 $214=(6n-1)+(6n-1)$, $107+107$, $n=18,18$
 $216=(6n-1)+(6n+1)$, $107+109$, $n=18,18$
 $218=(6n+1)+(6n+1)$, $109+109$, $n=18,18$
 $220=(6n-1)+(6n-1)$, $107+113$, $n=18,19$
 $222=(6n-1)+(6n+1)$, $89+133$, $n=15,22$
 $224=(6n+1)+(6n+1)$, $97+127$, $n=16,21$
.....
.....

Discussion

Thus, all numbers are executed in hexadecimal notation. For example, it does not change in a huge number (forever huge number).

$(6n - 2)$, $(6n)$, $(6n + 2)$ are even numbers. $(6n - 1)$, $(6n + 1)$, $(6n + 3)$ are odd numbers.

$(6n + 2)$ are not prime number, except 2.

$(6n + 3)$ are not prime number, except 3.

And, at $(6n - 1)$, include multiples of 5 are not prime numbers.

For example,

5, 35, 65, 95, 125, 155, 185, 215, 245, 275, 305, 335.....

And, at $(6n + 1)$, include multiples of 7 are not prime numbers.

For example,

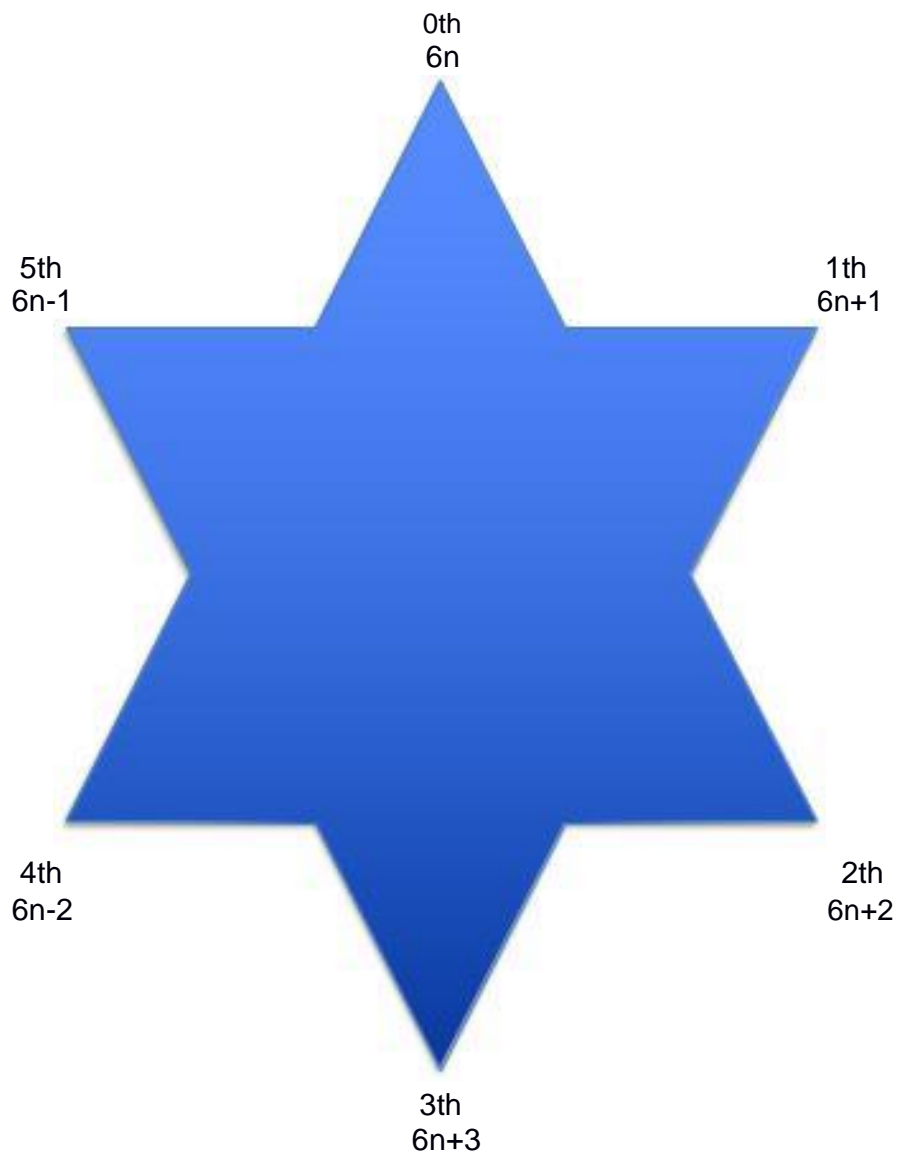
49, 63, 77, 91, 119, 133, 147, 161, 189, 203, 217, 231.....

In a hexagonal diagram, $(6n - 1)$ and $(6n + 1)$, many are prime numbers.

$(6n - 1) + (6n - 1) = 6(2n) - 2$, 4th angle is Even numbers.

$(6n - 1) + (6n + 1) = 6(2n)$, 0th angle is Even numbers.

$(6n + 1) + (6n + 1) = 6(2n) + 2$, 2th angle is Even numbers.



Conclusion

Any huge number is turning around this hexagon.

All even numbers are included in 0th angle, 2th angle, 4th angle.

And, all prime numbers are present in 1th angle, 5th angle.

(5th angle + 5th angle) are 4th angle(even number).

(5th angle + 1th angle) are 0th angle(even number).

(1th angle + 1th angle) are 2th angle(even number).

The bigger the number, the better

(Gigantic even number) = (some prime number) + (some prime number)

There are many choices for (some prime number) + (some prime number).

The larger the even value, the more the number of twin primes that become even.

That is because the number of rotations of the hexagon increases.

References

- [1] John Derbyshire.: Prime Obsession: Bernhard Riemann and The Greatest Unsolved Problem in Mathematics, Joseph Henry Press(2003) Japanese Edition.

key words

Hexagonal circulation, Prime number, Goldbach's conjecture