Original article

Discovery of prime number production equation by complex number
(√24a+4i)^2+33
and
(√6a+4i)^2+33
and
(√10a+4i)^2+35

Toshiro Takami
mmm82889@yahoo.co.jp

Abstract

I tried variously.
(30a+bi)^2+k
(24a+bi)^2+k
(1007a+bi)^2+k
(60a+bi)^2+k etc.
(a, b and k are positive integer.)
Only the real part of the complex number was extracted.
However, in the above formula it did not work well.

and, It settled down.

(√24a+4i)^2+33
and
(√6a+4i)^2+33
I half successful.
√8, √12, √14, √18 did not succeed.
Last,
(√10a+4i)^2+35
(a are positive integer)
I half successful.
Only the real part of the complex number was extracted.

However, a relatively large number of things that are not prime numbers are still included.
The challenge to my prime production ceremony will continue.

Introduction

(30a+bi)^2+k
(24a+bi)^2+k
(1007a+bi)^2+k
(60a+bi)^2+k
(2a+bi)^2+k
(4a+bi)^2+k
(6a+bi)^2+k
(8a+bi)^2+k
(10a+bi)^2+k
(12a+bi)^2+k
(a,b,k is positive integer)
Only the real part of the complex number was extracted.
However, in the above formula it did not work well.

I attempted triple and quadruple, but did not go well.

Finally, I tried use √24.

$$(\sqrt{24}a+4i)^2+33$$

(√24a+4i)^2+33

(a is positive integer)
Only the real part of the complex number was extracted.
I half successful.

Make sure not to make a mistake, but (√10) * a, and a is not in √.

And, finally I tried

$$(\sqrt{6}a+4i)^2+33$$

(√6a+4i)^2+33
(a is positive integer)
Only the real part of the complex number was extracted.
I half successful.

√2, √8, √12, √14, √18 did not succeed.
However, √8, √12 were a subtle feeling.
And
√3, √5, √7, √11, √13, √15, √17 did not succeed.
In the above odd numbers, even and odd numbers alternately came out.
However, there was a feeling that good results would be obtained if even number and odd number were different.

Finally I tried

$$(\sqrt{10}a+4i)^2+35$$

(√10a+4i)^2+35
(a is positive integer)
Only the real part of the complex number was extracted.
I half successful.

However, the challenge to my prime production ceremony will continue.

discussion

$$(\sqrt{6}a+4i)^2+33$$

(a is positive integer)
Only the real part of the complex number was extracted.

(√6×1+4i)^2+33=23 ----prime
(√6×2+4i)^2+33=41 -----prime
(√6×3+4i)^2+33=71 -----prime
(√6×4+4i)^2+33=113 -----prime
(√6×5+4i)^2+33=167 -----prime
(√6×6+4i)^2+33=233 -----prime
(√6×7+4i)^2+33=311 -----prime
(√6×8+4i)^2+33=401 -----prime
(√6×9+4i)^2+33=503 -----prime
(√6×10+4i)^2+33=617 -----prime
(√6×11+4i)^2+33=743 -----prime
(√6×12+4i)^2+33=881 -----prime
(√6×13+4i)^2+33=1031 -----prime
(√6×14+4i)^2+33=1193 -----prime
(√6×15+4i)^2+33=1367 -----prime
(√6×16+4i)^2+33=1553 -----prime
(√6×17+4i)^2+33=1751 -----twin prime(1753)
(√6×18+4i)^2+33=1961 -----1951+330
(√6×19+4i)^2+33=2183 -----2179+ 4
(√6×20+4i)^2+33=2417 -----prime
(√6×21+4i)^2+33=2663 ----prime
(√6×22+4i)^2+33=2921 -----2917+ 4
(√6×23+4i)^2+33=3191 -----prime
(√6×24+4i)^2+33=3473 -----3469+ 4
(√6×25+4i)^2+33=3767 -----prime
(√6×26+4i)^2+33=4073 -----prime
(√6×27+4i)^2+33=4391 -----prime
(√6×28+4i)^2+33=4721 -----prime
(√6×29+4i)^2+33=5063 -----5059+ 4
(√6×30+4i)^2+33=5417 -----prime
(√6×31+4i)^2+33=5783 ----prime
(√6×32+4i)^2+33=6161 -----twin prime(6163)

(√6×33+4i)^2+33=6551 -----prime
(√6×34+4i)^2+33=6953 -----6949+ 4
(√6×35+4i)^2+33=7367 -----twin prime(7369)
(√6×36+4i)^2+33=7793 -----prime
(√6×37+4i)^2+33=8231 -----prime
(√6×38+4i)^2+33=8681 -----prime
(√6×39+4i)^2+33=9143 -----9137+ 6
(√6×40+4i)^2+33=9617 -----twin prime(9619)
(√6×41+4i)^2+33=10103 ----prime
(√6×42+4i)^2+33=10601 -----prime
(√6×43+4i)^2+33=11111 -----twin prime(11113)
(√6×44+4i)^2+33=11633 -----prime
(√6×45+4i)^2+33=12167 -----12163+ 4
(√6×46+4i)^2+33=12713 -----prime
(√6×47+4i)^2+33=13271 -----13267+ 4
(√6×48+4i)^2+33=13841 -----prime
(√6×49+4i)^2+33=14423 -----prime
(√6×50+4i)^2+33=15017 -----prime
(√6×51+4i)^2+33=15623 -----15619+ 4
(√6×52+4i)^2+33=16241 -----16231+330
(√6×53+4i)^2+33=16871 -----prime
(√6×54+4i)^2+33=17513 -----17509+ 4
(√6×55+4i)^2+33=18167 -----twin prime(18169)
(√6×56+4i)^2+33=18833 -----18839- 6
(√6×57+4i)^2+33=19511 -----19507+ 4
(√6×58+4i)^2+33=20201 -----prime
(√6×59+4i)^2+33=20903 -----prime
(√6×60+4i)^2+33=21617 -----prime
……..
……..

$$(\sqrt{10}a+4i)^2+35$$

(a is positive integer)
(a is 1,2,3,4,5,6,7,8,9,10……)

Only the real part of the complex number was extracted.

(√10×1+4i)^2+35=29 ----prime
(√10×2+4i)^2+35=59 -----prime
(√10×3+4i)^2+35=109 -----prime
(√10×4+4i)^2+35=179 -----prime
(√10×5+4i)^2+35=269 -----prime
(√10×6+4i)^2+35=379 -----prime
(√10×7+4i)^2+35=509 -----prime
(√10×8+4i)^2+35=659 -----prime
(√10×9+4i)^2+35=829 -----prime
(√10×10+4i)^2+35=1019 -----prime
(√10×11+4i)^2+35=1229 ----prime
(√10×12+4i)^2+35=1459 -----prime
(√10×13+4i)^2+35=1709 -----prime
(√10×14+4i)^2+35=1979 -----prime
(√10×15+4i)^2+35=2269 -----prime
(√10×16+4i)^2+35=2579 -----prime
(√10×17+4i)^2+35=2909 -----prime
(√10×18+4i)^2+35=3259 -----prime
(√10×19+4i)^2+35=3629 -----twin prime(3631)
(√10×20+4i)^2+35=4019 -----prime
(√10×21+4i)^2+35=4429 -----not prime
(√10×22+4i)^2+35=4859 -----twin prime(4861)
(√10×23+4i)^2+35=5309 -----prime
(√10×24+4i)^2+35=5779 -----prime
(√10×25+4i)^2+35=6269 -----prime
(√10×26+4i)^2+35=6779 -----prime
(√10×27+4i)^2+35=7309 -----prime
(√10×28+4i)^2+35=7859 -----7867,7873,
(√10×29+4i)^2+35=8429 -----prime
(√10×30+4i)^2+35=9019 -----9013,9029
(√10×31+4i)^2+35=9629 -----prime
(√10×32+4i)^2+35=10259 -----prime
(√10×33+4i)^2+35=10909 -----prime
(√10×34+4i)^2+35=11579 -----prime
(√10×35+4i)^2+35=12269 -----prime
(√10×36+4i)^2+35=12979 -----prime

(√10×37+4i)^2+35=13709 -----prime
(√10×38+4i)^2+35=14459 -----twin prime(14461)
(√10×39+4i)^2+35=15229 -----twin prime(15227)
(√10×40+4i)^2+35=16019 -----16033,16057
(√10×41+4i)^2+35=16829 -----prime
(√10×42+4i)^2+35=17659 -----prime
(√10×43+4i)^2+35=18509 -----18503,18517
(√10×44+4i)^2+35=19379 -----prime
(√10×45+4i)^2+35=20269 -----prime
(√10×46+4i)^2+35=21179 -----prime
(√10×47+4i)^2+35=22109 -----prime
(√10×48+4i)^2+35=23059 -----prime
(√10×49+4i)^2+35=24029 -----prime
(√10×50+4i)^2+35=25019 -----25013,25031
……
……

$$(\sqrt{24}a + 4i)^2 + 33$$

(a is positive integer)
(a is 1,2,3,4,5,6,7,8,9,10……)
Only the real part of the complex number was extracted.

(√24×1+4i)^2+33=41----prime
(√24×2+4i)^2+33=113-----prime
(√24×3+4i)^2+33=233-----prime
(√24×4+4i)^2+33=401-----prime
(√24×5+4i)^2+33=617-----prime
(√24×6+4i)^2+33=881-----prime
(√24×7+4i)^2+33=1193-----prime
(√24×8+4i)^2+33=1553-----prime
(√24×9+4i)^2+33=1961-----1951+10
(√24×10+4i)^2+33=2417-----prime
(√24×11+4i)^2+33=2921-----2927- 6
(√24×12+4i)^2+33=3473-----3467+ 6

(√24×13+4i)^2+33=4073-----prime
(√24×14+4i)^2+33=4721-----prime
(√24×15+4i)^2+33=5417-----prime
(√24×16+4i)^2+33=6161-----twin prime(6163)
(√24×17+4i)^2+33=6953-----6959- 6
(√24×18+4i)^2+33=7793-----prime
(√24×19+4i)^2+33=8681-----prime
(√24×20+4i)^2+33=9617-----twin prime(9619)
(√24×21+4i)^2+33=10601-----prime
(√24×22+4i)^2+33=11633-----prime
(√24×23+4i)^2+33=12713-----prime
(√24×24+4i)^2+33=13841-----prime
(√24×25+4i)^2+33=15017-----prime
(√24×26+4i)^2+33=16241-----16249- 8
(√24×27+4i)^2+33=17513-----17517- 4
(√24×28+4i)^2+33=18833-----18039- 6
(√24×29+4i)^2+33=20201-----prime
(√24×30+4i)^2+33=21617----prime
(√24×31+4i)^2+33=23081 ----prime
(√24×32+4i)^2+33=24593 -----prime
(√24×33+4i)^2+33=26153 -----prime
(√24×34+4i)^2+33=27761 -----twin prime(27763)
(√24×35+4i)^2+33=29417 -----29411+ 6
(√24×36+4i)^2+33=31121 -----prime
(√24×37+4i)^2+33=32873 -----32869+ 4
(√24×38+4i)^2+33=34673 -----prime
(√24×39+4i)^2+33=36521 -----twin prime(36523)
(√24×40+4i)^2+33=38417 -----38432-15
(√24×41+4i)^2+33=40361 ----prime
(√24×42+4i)^2+33=42353 -----42349+ 4
(√24×43+4i)^2+33=44393 -----44389+ 4
(√24×44+4i)^2+33=46481 -----46477+ 4
(√24×45+4i)^2+33=48617 -----48613+ 4
(√24×46+4i)^2+33=50801 -----50789+ 12
(√24×47+4i)^2+33=53033 -----53017+ 16
(√24×48+4i)^2+33=55313 -----prime
(√24×49+4i)^2+33=57641 -----prime
(√24×50+4i)^2+33=60017 -----prime

(√24×51+4i)^2+33=49013------49019-6
(√24×52+4i)^2+33=64913------94919-6
(√24×53+4i)^2+33=67433-----prime
(√24×54+4i)^2+33=70001-----prime
(√24×55+4i)^2+33=72617-----prime
(√24×56+4i)^2+33=75281-----75289-8
(√24×57+4i)^2+33=77993-----77999-6
(√24×58+4i)^2+33=80753-----prime
(√24×59+4i)^2+33=83561-----prime
(√24×60+4i)^2+33=86417-----86423-6
…….
…….

postscript

I use wolframAlpha for calculation.

Reference

1) https://en.wikipedia.org/wiki/Prime_number
2) https://en.m.wikipedia.org/wiki/Formula_for_primes

☃～☃～☃～☃～☃～
☃～☃～☃～☃～☃～

☃～☃～☃～☃～☃～
☃～☃～☃～☃～☃～

I am a psychiatrist now and also a doctor of brain surgery before.

home
〒854-0067
Toshiro Takami
47-8 kuyamadai, Isahaya City, Nagasaki Prefecture, Japan

mmm82889@yahoo.co.jp
I would like to receive an email. I will not answer the phone.
I am very poor of english.　　Document are all google-translation.
When it is translated into English it turns into a cipher for me.
Currently 56 years old
Born on November 26, 1961