Greener Journal of Science, Engineering and Technological Research
Vol. 9(1), pp. 6-7, 2019
ISSN: 2276-7835

DOI Link: http://doi.org/10.15580/GJSETR.2019.1.040919067
http://gjournals.org/GJSETR

A number of conjectures are likely to setup

Zhou Mi [1*]; Hong Wei Shi [2]

[1] Suqian Economy and Trade Vocational School
[2] Suqian College

ABSTRACT

An unresolved conjecture in number theory has great possibility to set up.

ARTICLE INFO

Article No.: *040919067*
Type: *Short Comm*
DOI: *10.15580/GJSETR.2019.1.040919067*

Submitted: *09/04/2019*
Accepted: *13/04/2019*
Published: *19/04/2019*

****Corresponding Author***
Zhou Mi
E-mail: *zhoumi19920626@ 163.com*

Keywords: *number theory, conjecture, set up.*

INTRODUCTION:

Have an unresolved conjecture in number theory,

Q1=2, q2=3, q3=5, Q4, Q5,,,, from small to large order write all the prime numbers,
Qk=q1*q2*q3,,,, qk+1
Q1=3, Q2=7, Q3=31, Q4=211, Q5=2311, Q6=59*509, Q7=19*97*277, Q8=347*27953, Q9=317*7037
63, Q10=331*571*34231

The number five is a prime number, after the number five is a composite number, there is now a question of whether there are infinitely many k such that Qk is a prime number, or the Qk number?

Look at a matrix:

In 1934, East India (now Bangladesh) Chandra proposed a square sieve:

The first line is the first of 4, 3 of the tolerance of arithmetic sequence 4, 7, 10,... , 4+3 (n-1),...

The second line is the first of 7, 5 of the tolerance of arithmetic sequence 7, 12, 17,... , 7+5 (n-1),...

The third line is the first of 10, 7 of the tolerance of arithmetic sequence 10, 17, 24,... , 10+7 (n-1),...

The fourth line is the first of 13, 9 of the tolerance of arithmetic sequence 13, 22, 31,... , 13+9 (n-1),...
...

Line m is the first 3m+1, tolerance of arithmetic sequence 2m+1 3m+1, 5m+2, 7m+3,... , its n item is 3m+1+ (n-1) (2m+1) =2mn+m+n,...

Write the following array:

First column, second column, third column, fourth column, fifth column... Column n...

First row 47101316... 4+3 (n-1)...
Second row 712172227... 7+5 (n-1)...
Third row 1017243138... 10+7 (n-1)...
Fourth row 1322314049... 13+9 (n-1)...
Fifth row 1627384960... 16+11 (n-1)...
... ...

Line 3m+1 5m+2 7m+3 9m+4 11m+5 m... 2mn+m+n...
... ...

The secret lies in this square: if a natural number N appears in the table, then 2N + 1 is certainly not a prime number; if N does not appear in the table, then 2N + 1 is certainly a prime number.
In fact, if N=2mn+m+n, then 2N+1=2 (2mn+m+n) +1=4mn+2m+2n+1= (2m+1) (2n+1), it is not prime. On the contrary, the N does not appear in the table, if 2N+1 is not a prime number, then 2N+1 must be a product of two odd, write 2N+1= (2m+1) (2n+1) =4mn+2m+2n+1, N=2mn+m+n, it appears in the table, with the assumption of contradiction. So when N does not appear in the matrix when 2N+1 is a prime number.

Qk=q1*q2*q3,,,, *qk+1, q1=2, so Q2=2* (q2*q3,,, QK) +1, apparently q2*q3*q4,,,, *qk

Is the number, so q2*q3*q4, *qk=2N+1, N, and the above parties appear in the screen, appearing in square sieve in N has an infinite number if the 2N+1 appear or do not appear in the matrix. Then it has an infinite number of the Qk=2* (2N+1) +1 is prime or composite.

So this conjecture is likely to be established!

Cite this Article: Zhou M; Hong WS (2019). A number of conjectures are likely to setup. Greener Journal of Science, Engineering and Technological Research, 9(1): 6-7, http://doi.org/10.15580/GJSETR.2019.1.040919067.