

Theorem 1>

When there are n consecutive isomorphic sequences, there is a minimum of $\frac{p-1}{p+1} \cdot n$ (Where $p \leq N$)

Proof of Theorem 1>

Of course, there is a multiple of p in each p -th order in the sequence of equilibrium rather than a multiple of p . For example, a sequence of 1, 2, 3, 4, 5, 6,

1,2,3,4,5,6,7,8,9,10 ...

There is one for each fifth. Therefore, when there are $\frac{p-1}{p+1} \cdot n$ terms except for a multiple of 5, there is a maximum of $\frac{p-1}{p+1}$ times, so the Theorem 1> holds.

Theorem 2>

When there are two consecutive sequences of n consecutive numbers, there is a minimum of $\frac{p-2}{p+2} \cdot n$ ($2 \leq p \leq N$)

Proof of the Theorem 2>

For example, 1,2,3,4,5,6,7,8, ... 2, 3, 4, 5, 6, 7, 8, 9, If both are not a multiple of 5, there will be a minimum of 5-2 for every 5 pairs. Therefore, when there are $\frac{p-2}{p+2} \cdot n$ terms excluding a multiple of 5, there is a maximum of $\frac{p-2}{p+2} \cdot n$ times, so that holds.

Theorem 3>

When there are two consecutive sequences of $\frac{p+2}{p-2} \cdot \dots \cdot \frac{5+2}{5-2} \cdot \frac{3+2}{3-2} \cdot \frac{2+1}{2-1} \cdot n$ consecutive numbers, at least n is not a multiple of p . (Where p is the largest prime satisfying $p \leq N$)

Proof of theorem 3>

If theorem 3 is not true, then there exists p_i where $p_i \leq p$ When there are

$\frac{p+2}{p-2} \cdot \dots \cdot \frac{5+2}{5-2} \cdot \frac{3+2}{3-2} \cdot \frac{2+1}{2-1} \cdot n$ consecutive isomorphic sequences, There exist less than n number of $\frac{p_i+2}{p_i-2}$

$\frac{p+2}{p-2} \cdot \dots \cdot \frac{5+2}{5-2} \cdot \frac{3+2}{3-2} \cdot \frac{2+1}{2-1} \cdot n$ However, this violates the "Theorem 1". Therefore, is true.

Theorem 4>

When there are two $3^4 \ln^4 n \cdot n$ consecutive equilibrium sequences in n , there are at least n equations in which two equilibrium sequences are not simultaneously a multiple of p . (Where p is the largest prime satisfying $p \leq N$)

Proof of Theorem 4>

$$\frac{k+2}{k-2} < \left(\frac{k}{k-1} \right)^4$$

$$\frac{p}{p-1} \cdot \dots \cdot \frac{5}{5-1} \cdot \frac{3}{3-1} \cdot \frac{2}{2-1} < 3 \ln p$$

$(1, 2N - 1), (2, 2N - 2), (3, 2N - 3), (4, 2N - 4), \dots$ let n be the maximum prime satisfying $n \leq \sqrt{2N - 1}$, and by theorem 4, $3^4 \ln^4 n \cdot n$ consecutive If there are two equality sequences, there are at least n equations in which two equality sequences are not a multiple of n at the same time, so if $3^4 \ln^4 n \cdot n < n^2$ There are at least n pairs of prime numbers at the same time, both of which satisfy Goldbach's conjecture. However, when $5000000 < n, 3^4 \ln^4 n \cdot n < n^2$ is established, so all natural numbers over 5000000^2 satisfy Goldbach's speculation.

In a similar way twin prime guessing and other similar theorems proved.