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Goldbach's Problems

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ABSTRACT

The Goldbach-Euler binary problem is formulated as follows: Any evennumber, starting from 4, can be represented as the sum of two primes. The ternary Goldbach problem is formulated as follows: Every odd number greater than 7 can be represented as the sum of three odd primes, which was finally solved in 2013.[1]-[8].In 1995, Olivier Ramare proved that any even number is the sum of no more than 6primes.[9]

KEYWORDS: solving, problems, in, number, theory

THEOREM. Difference between any odd number and a prime odd number is equal to any even number and vice versa the difference of any even number andof a prime odd number is equal to any odd number.

Proof.

$$2K+1-p=2N \quad (01)$$

Where $K=K_1, K_1+1,..., K_i=K_1+i-1,...\infty$

$N=N_1, N_1+1,..., N_i=N_1+i-1,...\infty$

P is a prime odd number. J-serial number of a continuous series of natural numbers, startingaccordingly with K_1, N_1 K and N are an infinite, continuous series of integers that begin with

K_1, N_1, p -any prime number(fixed value, someconstant). Thus we have (01). And similarly:

$$2N-p=2K+1 \quad (02)$$

the difference of any even and odd numbers andconversely allow to represent anyprime odd number.

Corollary.

If the sum of six primes is any even number, then the sum primes less than six if odd, any odd number, if even any even number with corresponding initial values N_1, K_1.

From the equality of the sum of six primes to any even number it follows:

$$p_1+p_2+p_3+p_4+p_5+p_6+2=p_7+p_8+p_9+p_{10}+p_{11}+p_{12} \quad (03)$$

$$p_1+p_2+p_3+p_4+p_5+p_6-p_{12}+2=p_7+p_8+p_9+p_{10}+p_{11} \quad (04)$$

$$2N-p_{12}+2=p_7+p_8+p_9+p_{10}+p_{11} \quad (05)$$

$$2K+1=p_7+...+p_{11} \quad (06)$$

$$p_7+p_8+p_9+p_{10}+p_{11}+2=p_{12}+p_{13}+p_{14}+p_{15}+p_{16} \quad (07)$$

(the index under p is not critical)

$$p_1+p_2+p_3+p_4+2=p_5+p_6+p_7+p_8 \quad (08)$$

$$p_1+p_2+p_3+p_4-p_8+2=p_5+p_6+p_7 \quad (09)$$

$$p_5+p_6+p_7=2K+1 \quad (10)$$

where K=3,4,5..., ∞

weak Goldbach problem.

$$p_1+p_2+p_3+2=p_4+p_5+p_6 \quad (11)$$

$$p_1+p_2+p_3-p_4+2=p_5+p_6 \quad (12)$$

$$p_5+p_6=2N \quad (13)$$

where N=2,3,..., ∞

strong Goldbach problem.

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