

A Possible Proof of the Twin-Primes Conjecture

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Definition: twin-primes

Twin-primes are two positive integers that differ only by an even integer.

For example: 3, 5 are twin primes; as are 5, 7, and 11, 13.

Definition: The Twin-Prime Conjecture

The Twin Prime Conjecture asserts that there is an infinity of twin primes.

Possible Proof

1. The set of positive integers is made up of (a) the set of primes, and (b) the set of all finite products of primes. There is one and only one set of positive integers.
2. Each pair of twin primes p, q , gives rise to an infinity of products, namely, the set of all $p^i q^j$, where the exponents i, j are positive integers.
3. If the Conjecture is true, there is an infinite set of such infinities of products, whereas if the Conjecture is false, there is only a finite set of such infinities of products.

But if the Conjecture is false, that means that infinities of products are missing from the set of all positive integers, which is impossible, since no integer is missing from the set of all positive integers.

Therefore, the Conjecture is true.