

Conjecture that relates both the lesser and the larger term of a pair of twin primes to the same number through two different functions

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Abstract. In this paper I conjecture that for any pair of twin primes p and $p + 2$ there exist an odd positive integer n such that the value of Smarandache function for n is equal to p and the value of MC function for n is equal to $p + 2$.

Conjecture:

For any pair of twin primes p and $p + 2$, where $p \geq 5$, there exist a positive integer n of the form $15 \cdot k + 18$ such that the value of Smarandache function for n is equal to p and the value of MC function for n is equal to $p + 2$.

Verifying the conjecture:

(for the first 11 pairs of twin primes)

- : For $n = 15$ the value of Smarandache function is equal to 5 and the value of MC function is equal to 7;
- : For $n = 33$ the value of Smarandache function is equal to 11 and the value of MC function is equal to 13;
- : For $n = 51$ the value of Smarandache function is equal to 17 and the value of MC function is equal to 19;
- : For $n = 87$ the value of Smarandache function is equal to 29 and the value of MC function is equal to 31;
- : For $n = 123$ the value of Smarandache function is equal to 41 and the value of MC function is equal to 43;
- : For $n = 177$ the value of Smarandache function is equal to 59 and the value of MC function is equal to 61;
- : For $n = 213$ the value of Smarandache function is equal to 71 and the value of MC function is equal to 73;
- : For $n = 303$ the value of Smarandache function is equal to 101 and the value of MC function is equal to 103;
- : For $n = 321$ the value of Smarandache function is equal to 107 and the value of MC function is equal to 109;
- : For $n = 411$ the value of Smarandache function is equal to 137 and the value of MC function is equal to 139;
- : For $n = 447$ the value of Smarandache function is equal to 149 and the value of MC function is equal to 151.