Sequences of primes that are congruent sco n

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Abstract. In a previous article I defined the Smarandache-Coman congruence on primes. In this paper I present few sequences of primes that are congruent sco n.

Note:

I will first present again the notion of *Smarandache-Coman congruence*, which is very related with the notion of *Smarandache-Coman divisors*, which I also defined in a previous paper.

Definition:

We define in the following way *the Smarandache-Coman congruence on primes*: we say that *two primes p and q are congruent sco n* and we note $p \equiv q(\text{sco } n)$ if $S(p - n) = S(q - n) = k$, where n is a positive non-null integer and S is the Smarandache function (obviously k is also a non-null integer). We also may say that k is equal to p sco n respectively k is also equal to q sco n and note $k = p \text{ sco } n = q \text{ sco } n$.

Note:

Because, of course, $S(3 - 1) = 2$ and $S(3 - 2) = 1$, there is no other prime that are congruent sco n to 3. Also there is no other prime to be congruent sco n to 5 so we start the sequences with the prime 7.

Note:

I will consider only the primes 7, 11, 13, 17 and 19 and the primes congruent sco n to them less than 1000 and, because I didn't yet study deeply all the implications of this new notion, I shall restrain myself from any comments or conjectures.

The sequence of primes congruent to 7 sco 2 (= 5):
(n = 2 is obviously the only possible n for such a congruence)
: 17.

The sequence of primes congruent to 11 sco 4 (= 7):
: 23, 37, 107, 317.

The sequence of primes congruent to 13 sco 2 (= 11):
: 79, 101, 167, 233, 277, 827.

The sequence of primes congruent to 13 sco 6 (= 7):
: 41.

The sequence of primes congruent to 13 sco 8 (= 5):
: 11, 23.

The sequence of primes congruent to 17 sco 4 (= 13):
: 43, 199, 277, 397, 421, 433, 659, 719, 823, 977.

The sequence of primes congruent to 17 sco 6 (= 11):
: 61, 83, 281, 797.

The sequence of primes congruent to 17 sco 10 (= 7):
: 31, 73.

The sequence of primes congruent to 19 sco 2 (= 17):
: 53, 181, 223, 257, 359, 461, 521, 563, 937.

The sequence of primes congruent to 19 sco 6 (= 13):
: 71, 97, 137, 149, 331, 461.

The sequence of primes congruent to 19 sco 8 (= 11):
: 41, 173, 239, 283, 347, 503, 701.

The sequence of primes congruent to 19 sco 12 (= 7):
: 47.

The sequence of primes congruent to 19 sco 14 (= 5):
: 29.

References:

1. Coman, Marius, *The Smarandache-Coman divisors of order k of a composite integer n with m prime factors*, Vixra;
2. Coman, Marius, *Seventeen sequences of Poulet numbers characterized by a certain set of Smarandache-Coman divisors*, Vixra.
3. Coman, Marius, *The Smarandache-Coman congruence on primes and four conjectures on Poulet numbers based on this new notion*, Vixra.