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 ≡ q(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 sco n = q 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):
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 (\(= 17\)):

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 (\(= 11\)):

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.