Primes obtained concatenating the numbers s(p)-d(k), where s(p) is the sum of digits of a prime p and d(1),...,d(k) the digits of p

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Abstract. In this paper I make the following conjecture: There exist an infinity of primes p having the property that concatenating s(p) – d(1) with s(p) – d(2) and repeatedly up to s(p) – d(k), where s(p) is the sum of digits of p and d(1),...,d(k) are the digits of p, is obtained a prime q. Example: such prime p is 127 because concatenating 9 (= 10 – 1) with 8 (= 10 – 2) and with 3 (= 10 – 7) is obtained a prime q = 983.

Conjecture:

There exist an infinity of primes p having the property that concatenating s(p) – d(1) with s(p) – d(2) and repeatedly up to s(p) – d(k), where s(p) is the sum of digits of p and d(1),...,d(k) are the digits of p, is obtained a prime q.

The sequence of primes q:
(the sign "//" is used with the meaning "concatenated to")

: q = 11 for p = 11 because (2 – 1)//(2 – 1) = 11;
: q = 31 for p = 13 because (4 – 1)//(4 – 3) = 31;
: q = 71 for p = 17 because (8 – 1)//(8 – 7) = 71;
: q = 13 for p = 31 because (4 – 3)//(4 – 1) = 13;
: q = 73 for p = 37 because (10 – 3)//(10 – 7) = 73;
: q = 17 for p = 71 because (8 – 7)//(8 – 1) = 17;
: q = 37 for p = 73 because (10 – 7)//(10 – 3) = 37;
: q = 97 for p = 79 because (16 – 7)//(16 – 9) = 97;
: q = 79 for p = 97 because (16 – 9)//(16 – 7) = 79;
: q = 983 for p = 127 because (10 – 1)//(10 – 2)//(10 – 7) = 983;
: q = 947 for p = 163 because (10 – 1)//(10 – 6)//(10 – 3) = 947;
: q = 929 for p = 181 because (10 – 1)//(10 – 8)//(10 – 1) = 929;
: q = 233 for p = 211 because (4 – 2)//(4 – 1)//(4 – 1) = 233;

: q = 1297 for p = 257 because (14 − 2)//(14 − 5)//(14 − 7) = 1297;

: q = 839 for p = 271 because (10 − 2)//(10 − 7)//(10 − 1) = 839;

: q = 1499 for p = 277 because (16 − 2)//(16 − 7)//(16 − 7) = 1499;

: q = 12511 for p = 293 because (14 − 2)//(14 − 9)//(14 − 3) = 12511;

: q = 7103 for p = 307 because (10 − 3)//(10 − 0)//(10 − 7) = 7103;

: q = 13127 for p = 349 because (16 − 3)//(16 − 4)//(16 − 9) = 13127;

: q = 13109 for p = 367 because (16 − 3)//(16 − 6)//(16 − 7) = 13109;

: q = 457 for p = 431 because (8 − 4)//(8 − 3)//(8 − 1) = 457;

: q = 10513 for p = 491 because (14 − 4)//(14 − 9)//(14 − 1) = 10513;

: q = 367 for p = 521 because (8 − 5)//(8 − 2)//(8 − 1) = 367;

: q = 587 for p = 523 because (10 − 5)//(10 − 2)//(10 − 3) = 587;

: q = 569 for p = 541 because (10 − 5)//(10 − 4)//(10 − 1) = 569;

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