Conjecture on primes obtained concatenating p, n and p+n, where p and p+n primes

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Abstract. In this paper I make the following conjecture: For any n even there exist an infinity of primes which can be deconcatenated in three numbers, i.e., from left to right, p, n and p + n, where p and p + n are primes. Examples: for n = 2, the least such prime is 11213 (11 + 2 = 13); for n = 4, the least such prime is 347 (3 + 4 = 7); for n = 6, the least such prime is 11617 (11 + 6 = 17); for n = 8, the least such prime is 5813 (5 + 8 = 13); for n = 10, the least such prime is 31013 (3 + 10 = 13); for n = 12, the least such prime is 51217 (5 + 12 = 17); for n = 14, the least such prime is 51419 (5 + 14 = 19); for n = 16, the least such prime is 431659 (43 + 16 = 59).

Conjecture:

For any n even there exist an infinity of primes which can be deconcatenated in three numbers, i.e., from left to right, p, n and p + n, where p and p + n are primes.

The least five primes which can be deconcatenated in three numbers, i.e., from left to right, p, n and p + n, where p and p + n are primes, for each n from 2 to 14:

: For n = 2 we have:
  : 11213 (11 + 2 = 13 and 11, 13 are primes);
  : 29231 (29 + 2 = 31 and 29, 31 are primes);
  : 41243 (41 + 2 = 43 and 41, 43 are primes);
  : 1012103 (101 + 2 = 103 and 101, 103 are primes);
  : 1372139 (137 + 2 = 139 and 137, 139 are primes).

: For n = 4 we have:
  : 347 (3 + 4 = 7 and 3, 7 are primes);
  : 7411 (7 + 4 = 11 and 7, 11 are primes);
  : 13417 (13 + 4 = 17 and 13, 17 are primes);
  : 19423 (19 + 4 = 23 and 19, 23 are primes);
  : 37441 (37 + 4 = 41 and 37, 41 are primes).

: For n = 6 we have:

: 11617 (11 + 6 = 17 and 11, 17 are primes);
: 13619 (13 + 6 = 19 and 13, 19 are primes);
: 17623 (17 + 6 = 23 and 17, 23 are primes);
: 23629 (23 + 6 = 29 and 23, 29 are primes);
: 37643 (37 + 6 = 43 and 37, 43 are primes).

: For n = 8, we have:
: 5813 (5 + 8 = 13 and 5, 13 are primes);
: 23831 (23 + 8 = 31 and 23, 31 are primes);
: 29837 (29 + 8 = 37 and 29, 37 are primes);
: 53861 (53 + 8 = 61 and 53, 61 are primes);
: 71879 (71 + 8 = 79 and 71, 79 are primes).

: For n = 10, we have:
: 31013 (3 + 10 = 13 and 3, 13 are primes);
: 131023 (13 + 10 = 23 and 13, 23 are primes);
: 311041 (31 + 10 = 41 and 31, 41 are primes);
: 611071 (61 + 10 = 71 and 61, 71 are primes);
: 1213101223 (1213 + 10 = 1223 and 1213, 1223 are primes).

: For n = 12, we have:
: 51217 (5 + 12 = 17 and 5, 17 are primes);
: 191231 (19 + 12 = 31 and 19, 31 are primes);
: 411253 (41 + 12 = 53 and 41, 53 are primes);
: 471259 (47 + 12 = 59 and 47, 59 are primes);
: 591271 (59 + 12 = 71 and 59, 71 are primes).

: For n = 14, we have:
: 51419 (5 + 14 = 19 and 5, 19 are primes);
: 291443 (7 + 14 = 11 and 7, 11 are primes);
: 1019141033 (1019 + 14 = 1033 and 1019, 1033 are primes);
: 1187141201 (1187 + 14 = 1201 and 1187, 1201 are primes);
: 1223141237 (1223 + 14 = 1237 and 1223, 1237 are primes).