Squares of primes that can be written as (p-q-1)*p-q-1 where p and q are successive primes

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Abstract. In this paper I conjecture that there are an infinity of primes which can be written as sqr ((p – q – 1)*p – q – 1), where p and q are successive primes, p > q.

Conjecture:

There are an infinity of primes which can be written as sqr ((p – q – 1)*p – q – 1), where p and q are successive primes, p > q.

The first sixteen such primes:
(ordered by the size of p and q)

: 5 = sqr ((11 – 7 – 1)*11 – 7 – 1) = sqr 25;
: 7 = sqr ((23 – 19 – 1)*23 – 19 – 1) = sqr 49;
: 11 = sqr ((29 – 23 – 1)*29 – 23 – 1) = sqr 121;
: 13 = sqr ((83 – 79 – 1)*83 – 79 – 1) = sqr 169;
: 19 = sqr ((89 – 83 – 1)*89 – 83 – 1) = sqr 361;
: 31 = sqr ((239 – 233 – 1)*239 – 233 – 1) = sqr 961;
: 47 = sqr ((367 – 359 – 1)*367 – 359 – 1) = sqr 2209;
: 79 = sqr ((1559 – 1553 – 1)*1559 – 1553 – 1) = sqr 6241;
: 97 = sqr ((1567 – 1559 – 1)*1567 – 1559 – 1) = sqr 9409;
: 89 = sqr ((1979 – 1973 – 1)*1979 – 1973 – 1) = sqr 7921;
: 157 = sqr ((2053 – 2039 – 1)*2053 – 2039 – 1) = sqr 24649;
: 67 = sqr ((2243 – 2239 – 1)*2243 – 2239 – 1) = sqr 4489;
: 101 = sqr ((2549 – 2543 – 1)*2549 – 2543 – 1) = sqr 10201;
: 73 = sqr ((2663 – 2659 – 1)*2663 – 2659 – 1) = sqr 5329;
: 109 = sqr ((2969 – 2963 – 1)*2969 – 2963 – 1) = sqr 11881;
: 179 = sqr ((3203 – 3191 – 1)*3203 – 3191 – 1) = sqr 32041.

The first twelve primes which can’t be written in the manner described:

:   2, 3, 17, 23, 37, 41, 43, 53, 59, 61, 71, 79.