

Primes obtained concatenating with 1 to the right the triangular numbers

Abstract. In this paper I state the following conjecture:
There exist an infinity of primes p obtained concatenating to the right with 1 the triangular numbers.

Conjecture:

There exist an infinity of primes p obtained concatenating to the right with 1 the triangular numbers.

Note: the formula of triangular numbers is $T(n) = n*(n + 1)/2 = 1 + 2 + 3 + \dots + n$.

The triangular numbers $T(n)$:

(Sequence A000217 in OEIS)

: 0, 1, 3, 6, 10, 15, 21, 28, 36, 45, 55, 66, 78, 91, 105, 120, 136, 153, 171, 190, 210, 231, 253, 276, 300, 325, 351, 378, 406, 435, 465, 496, 528, 561, 595, 630, 666, 703, 741, 780, 820, 861, 903, 946, 990, 1035, 1081, 1128, 1176, 1225, 1275, 1326, 1378, 1431 (...)
4498050211, 4498350151 (...)

The sequence of primes p :

: 11, 31, 61, 101, 151, 211, 281, 661, 911, 1051, 1201, 1361, 1531, 1901, 2311, 2531, 3001, 3251, 3511, 4651, 5281, 6301, 6661, 7411, 9461, 9901, 12251, 13781 (...)
4498050211, 4498350151 (...)

Observations:

: Note the chain of 7 primes (11, 31, 61, 101, 151, 211, 281) obtained from 7 consecutive triangular numbers (1, 3, 6, 10, 15, 21, 28), also the chain of 5 primes (91, 105, 120, 136, 153) obtained from 5 consecutive triangular numbers (91, 1051, 1201, 1361, 1531).

Note that many of the numbers obtained by this method are semiprimes $x*y$ with the property that x and y have the same last digit (some of them have also the property that $y - x + 1$ is prime).
Examples:

: 11761 = 19*619 (and 619 - 19 + 1 = 601);
: 12751 = 41*311 (and 311 - 41 + 1 = 271);
: 13261 = 89*149 (and 149 - 89 + 1 = 61);
: 14311 = 11*1301 (and 1301 - 11 + 1 = 1291);

: 4498650101 = 11*408968191;
: 4498950061 = 29*155136209;
: 4499250031 = 701*6418331;
: 4499850001 = 5309*847589.