

The sequence of palindromes n with property that the number of primes $30k+7$ and $30k+11$ up to n is equal

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Abstract. In this paper I conjecture that there exist an infinity of palindromes n for which the number of primes up to n of the form $30k + 7$ is equal to the number of primes up to n of the form $30k + 11$ and I found the first 40 terms of the sequence of n (I also found few larger terms, as 99599, 816618 or 1001001 up to which the number of primes from the two sets, equally for each, is 1154, 8159, respectively 9817).

Conjecture:

There exist an infinity of palindromes n for which the number of primes up to n of the form $30k + 7$ is equal to the number of primes up to n of the form $30k + 11$.

The sequence of the palindromes n

(for which the number of primes up to n of the form $30k + 7$ is equal to the number of primes up to n of the form $30k + 11$):

(in the brackets is the number of primes up to n , equally for each of to the two sets)

: 22(1), 33(1), 44(2), 55(2), 66(2), 77(3), 88(3),
111(4), 121(4), 141(5), 151(5), 202(6), 212(6),
222(6), 232(6), 242(6), 343(9), 353(9), 363(9),
434(11), 444(11), 454(11), 464(11), 494(13),
505(13), 515(13), 555(14), 565(14), 575(14),
585(14), 707(16), 717(16), 727(16), 1111(25),
1441(29), 1661(34), 1771(35), 1881(37), 2772(51)...

Few larger such palindromes n :

: 99599 (1154); 148841 (1730); 157751 (1822); 816618
(8159); 830038 (8285); 1001001 (9817).

Note:

Whether or not the conjecture above is true, the equal distribution of the two sets of primes up to such large numbers confirms the value of the classification of primes in the following 8 sets: $30k + 1$, $30k + 7$, $30k + 11$, $30k + 13$, $30k + 17$, $30k + 19$, $30k + 23$ and $30k + 29$.