**Twin primes**

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**Abstract:**

Basing on my study, "Distribution of primes" [viXra:1407.0167](http://viXra.org) submitted on 2014-07-21 I've shown that we can determine the distribution of prime numbers while remaining within the set of natural numbers; However, I present in this paper the numbers which are susceptible to be twins

**I-Introduction:**

Before speaking about twin primes; I would like to take back the distribution of primes that can be clear and meaningful only when we spread out natural numbers over a period of 19 or 11 in order to get the numbers that constitutes the distribution of prime numbers which are in the form:

\[ P=2x3x5 \times n +2k+3 / n \times k \in \mathbb{N} \text{ and } k=\{2, 4, 5, 7, 8, 10, 13, 14\} \]

Thus, the numbers \(2k+3\) which are 7, 11, 13, 17, 19, 23, 29, 31

So the eight numbers are:

\[
\begin{align*}
30n + 7 & \text{ in position } 4 \rightarrow P_4 \\
30n + 11 & \text{ in position } 5 \rightarrow P_5 \\
30n + 11 & \text{ in position } 6 \rightarrow P_6 \\
30n + 17 & \text{ in position } 7 \rightarrow P_7 \\
30n + 19 & \text{ in position } 8 \rightarrow P_8 \\
30n + 23 & \text{ in position } 9 \rightarrow P_9 \\
30n + 29 & \text{ in position } 10 \rightarrow P_{10} \\
30n + 31 & \text{ in position } 11 \rightarrow P_{11} \\
\end{align*}
\]

Eight (08) numbers are associated to \(n\); only these numbers are susceptibles to be primes or to be the product of this same kind of numbers.
These same results were obtained by Harry k.Kahn: arXiv: 0801.4049 v1 on studying the Riemann function; but have failed to understand the primes; but through the distribution that I illustrated; I am able to find the primality of a number or form a prime number as large as possible in few minutes.

In addition; for centuries we spoke only about density of primes by studying the limit of the Euler function; but in my study I mentioned the rank of primes bringing a verifiable formula:

\[ R_n = 8n + P_k \cdot np \]

* \( R_n \) is the rank
* \( P_k \) is the position of the prime number with \{4, 5, 6, 7, 8, 9, 10, 11\}
* \( np \) is the number of the non-prime numbers belong to the distribution before this prime number.

II- Twin primes:

So; through the distribution of primes which starts since 7; and where 2;3;5 do not belong to it but take part in the formula; the numbers which are susceptible to be twin after the primality testing are the following:

(30n +11 and 30n +13)

(30n +17 and 30n +19)

(30n +29 and 30n +31)

Example:

\( n=0 \) the three couples are twin (11,13);(17,19);(29,31)

\( n=1 \) Two Couples are twin (41,43);(59,61) but (47,49) are not twin because 49 even it belongs to the distribution but it is not prime.

The distribution of primes is depending of the table in FIG1; this same table is the table of primality testing; and also it would be the mean to clarify when twin primes emerge.
FIG 1:

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</tbody>
</table>

Conclusion:

Before looking if the number of twin primes is finite or infinite; we should review the distribution of primes that will lead us to make basic observations that allow us to make clear that alternative which I will reveal in my next article.

References

1. Quran: Chapter 74 "Al Moddathir"verse "30; 31"


4. viXra:1407.0167: Distribution of prime numbers; submitted on 2014-07-21

5. Arxiv: 0801.4049v1: « About the logic of the prime number distribution »; submitted on 28 Jan 2008

6. Arxiv: 0801.0095v1: « Modeling the creative process of the mind by prime numbers and a simple proof of the Riemann Hypothesis »