

# Re: Towards a Formula for Primes

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Continuing the story of the search for a general formula for primes – even with the malicious "background music" that sci.math is notorious for:

I generalised the concept of a system of mathematics that moves a function across from the world of logic, and called such a system "transarithmetic".

Here is such a formula, which I have used very often, such as when writing a search engine or text comparator:

$a = b \text{ AND } 223$

I have no doubt that very, very many people have done this also. I am not suggesting therefore that "transarithmetic" has no prior Art. I am suggesting, however, that it has not been subjected to a rigorous axiomatic study.

The function I showed takes as its ARGUMENT (b) an ASCII number, and uses the MASK 223 to reset the 32s bit, therefore delivering the RESULT (a) that is upper-case ASCII. Yes – I know – there are punctuation marks &c.

By the discovery of pseudorandomness in primes, which arithmetic may be unable to deal with, I recommended that the XOR function be moved across into that arithmetic to create a "transarithmetic". Then, I thought about this deeper.

The formula that is sought is of the form (NO, bickerers, this is NOT the finished formula):

$\text{prime} = (n + a - b / c * d) \text{ xor } (n \text{ to the power } e)$

What this means is as follows:

- (1) You are looking for "prime", the RESULT.
- (2) You are using n, the ARGUMENT
- (3) You have numbers such as a, b, c, d, e at your disposal – positive whole number.

Those numbers cannot be an undiscovered prime, or you must search

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for a prime to begin to search for a prime.

(4) Your functions are add (+), subtract (-), divide (/), multiply (\*) and XOR.

The "mirror-image twin" of XOR, the XNOR, can be substituted for the logic function.

(5) Other functions, like the square, cube and (n to the power e) are permitted, because they simply re-use the multiplication.

In the book in which he introduced the algebra, al Kwarizmi said:

"I have often considered what a person requires when doing a calculation, and have decided it is a NUMBER".

Right, a number. But what KIND of numb