

PRIME NUMBERS FORMULA

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INTRODUCTION:

formula for prime number

.....this is the first version and in the next version we will prove the formula And explain it .

About Discovery:

More explain about discovery of prime numbers formula:

Infinity proof of prime numbers was propound 300 years before the Christian era by Euclid and since that time great mathematician like Euler try to discover a formula for production of prime numbers.

Euler could define a quadratic function which give prime numbers for forty prime number which are uninterrupted and also Fermat presented a formula to obtain prime numbers and later, it breached by Euler for $n = 5$.

Many of other mathematicians achieved to violating and especially formula and finally they found that discovery of prime numbers formula is impossible and this problem will be unsolvable.

In fact this discovery means that one of complicated and unsolvable mathematics problem was solved and this discovery give this fact to man that earthy human can solve other unsolvable problems with research and effort

1-the function distinction of prime numbers:

$O(n): \mathbb{N} \rightarrow \mathbb{N}$

$$n \rightarrow O(n) = (n - \gcd((n-1)!, n)) / (n-1)$$

$O(n) = 1$ if n is prime

else $O(n) = 0$

Exp:

$$n=20 \dots O(20) = (20 - \gcd(20!, 20)) / 19 = 0$$

$$P = \{p'(n); n \in \mathbb{N}; P'(n) = (n / (n-1)) * (n - \gcd((n-1)!, n)) = n * O(n)\}$$

$P'(n) = n$, if n is prime

$P'(n) = 0$ else

Countinig prime nimber Formula:

$$\pi(n) = 2 + \sum_{i=5}^n O(i)$$

