Some prime numbers of the form [(mxn)-(m-1)] and[(mxn)-(m+1)]

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Abstract:

Define formula for some prime numbers, when **m ,n** positive integer, such that **m** is even number and **n** each positive integer such that $\frac{m}{2}<n\leq m$ divided **two formula**:

Define **shwan formula(1)** & **shwan formula(2)**

shwan formula(1): p=(m x n)-(m-1) if **m,n** is even number $\frac{m}{2}<n\leq m$

shwan formula(2): **p=(mxn)-(m+1)** **m** is even & **n** odd number $\frac{m}{2}<n<m$

This form we use cannot be true for all prime numbers, cannot be made into a general form, the type of this form is the way that the peime numbers are not one after the other.

keyword: Gold Bach problem, prime numbers, new formula, shwana formula.

1.Introduction:

More prime numbers is a integer, when (**even number-1**) or(**even number+1**) or it self, put another way a prime can be divided by (**1**) and by it **self.**

before defined formula by dear (**Pedro Hugo GarcíaPelaez**) in **25** of September of **2020** discover any prime of one's kind ((**m**)x(**n**))**+1** just below of a number surrendered. because that fact number fixed spends any guild of the derivative instrument * the general coefficient (**m**)**+1.**

In **25** of **dismember** of **2020** we can discover(**formula**),

The purpose of this study is to find prime number by two new formulas, as well known the study of prime numbers are very useful in cryptography. Therefore, we defined and studied two new formulas for finding prime numbers in order to be useful in the study cryptography

We can define formula to [(**mxn**)-(**m-1)**] & (**mxn**)-(**m**+1)] to find some prime numbers and this formula apply goldbach conjecture.

goldbach problem the **7 jun.147** wrote **conjecture (** all even numbers as sum of two prime numbers**).** goldbach's theorize can not be tried onto origin any same old formulas containing pure mathematics; the sole rationale of this kind blood group lay claim can be that the overall poser underdog around with regards to 280 second childhood. and let united states of america consider the overall theorization may be unverifiable. at that time that's sincere.

why? because, wherever that it had been unrealistic, could subtend any old boxed symmetric whole number that can be not spectacular sum up epithetical two tiers. group a delimited look can prove the aforementioned one, creating spectacular speculate “provably false”! especially, falsity of your theorization will be mismatched furthermore unprovability. the one in question falsehood enables america to associate in nursing inescapable finish: supposing that goldbach’s theorize will be unverifiable, it's trustworthy

shwan formula(1):

If **m**,**n** two integer number; such that **m** is even number and **n** is odd number

p=(mxn)-(m+1) such that $\frac{m}{2}$ **<n <m**

Algorithm:

m = 2:2:2k

n = 1:2:2k+1

if $\frac{m}{2}$ **<n <m**

p = (m x n) – (m + 1);

end

example:

if m=10 & n= 7

p= (m x n) – (m + 1)

p= (10 x 7) – (11)

p= 70 – 11

p= 59 **p is prime number.**

shwan formula(2):

If **m**,**n** two integer number such that **m** is even number & **n** is even number, **p=(mxn)-(m-1) such that** $\frac{m}{2}$ **<n ≤m**

Algorithm:

m = 2:2:2k

n = 1:2:2k+1

if $\frac{m}{2}$ **<n ≤m**

p = (m x n) – (m - 1);

end

example :

if m=12 n=8

p= (m x n) – (m - 1)

p= (12 x 8) – (12 - 1)

p= (12 x 8) – (11)

p=(96)-(11)

p=85 **p is prime number.**

2.Express all even numbers as sum of two prime numbers in the formula:

Gold Bach conjecture states that every even number consists of sum of two primes, their exist$\mathbf{P_1, P_2}$, $\mathbf{2L = P_1 + P_2}$

Proof/

We proved **Shwan formula** as following:

Case (1):

If **m,n** is even number, $\frac{m}{2} < n \leq m$

m,**n** is positive integer: if $\mathbf{P_1 = (m \times n) - (m - 1)}$ **&** $\mathbf{P_2 = (m \times n) - (m - 1)}$

$\mathbf{P_1 + P_2 = 2L}$

= (m x n) + (m x n) – 2(m – 1)

= 2((m x n) + (m x n) – (m – 1))

= **2L** **is even number**

Case (2):

If **m** is even number, **n** is odd number, such that $\frac{m}{2} < n < m$

m,n is positive integer: if $\mathbf{P_1 = (m \times n) - (m + 1)}$ **&** $\mathbf{P_2 = (m \times n) - (m + 1)}$

$\mathbf{P_1 + P_2 = 2L}$

=(m x n) – (m + 1)+ (m x n) – (m + 1)

= (m x n) + (m x n) – 2(m + 1)

= 2((m x n) + (m x n) – (m + 1))

= **2L** is even number

Case (3):

If **m** is even number, **n** is any integer number, **such that** $\frac{m}{2}$ **<n ≤m**

m,n is positive integer: **if P_1 = (m x n) – (m + 1) & P_2 = (m x n) – (m - 1)**

$P_1 + P_2 = 2L$

=(m x n) – (m + 1)+ (m x n) – (m - 1)

= (m x n) + (m x n) – 2m

= 2((m + n) – 2m

= **2L is even number**

We can express all even numbers as sum of two prime numbers. this shwan formula given prime numbers. looks within your means so the prime factors under (**2L**) can be a method to express the number (**2L**) as sum up of 2 primes. the primes below (**2L**) can be answers to vociferate (**2L**) as total of two p look within your means so the prime factors under (**2L**) can be a method to express the number (**2L**) as sum up of 2 primes. the primes below (**2L**) can be answers to vociferate (**2L**) as total of two **p**

3.euclid's proofread for the timeless existence of infinitely:

many prime numbers
to prove there are infinitely umpteen prime numbers, euclid used some other basic theorem that was renowned to her, which is the false statement that "every spontaneous number can be written as a product of prime numbers." it is easy to be convinced of the truth of that last lay claim. if you pick a host that is not composite, then that number is key itself. otherwise, you can write the number you chose as a product of two lesser numbers. if each of the smaller numbers is prime, you have expressed your integer as a product of prime numbers. if not, write the smaller composite numbers as products of still lesser numbers, and so forth. in this outgrowth, you keep replacing any the composite numbers with product of smaller numbers. since it is very unlikely to do this forever, this villus must end also the smaller numbers you very last up with can now not be weakened, meaning they are prime numbers. as an example, let us break down the number **72** into its nested loops:

72 = 12 × 6 = 3 × 4 × 6 = 3 × 2 × 2 × 6 = 3 × 2 × 2 × 2 × 3.

based on this essential facts, we can now explicate euclid's better-looking proof for the infiniteness of the set of fractions. we will confirm the idea using the time table of the first 10 primes but notice that this same works for any bounded list of prime numbers. let us make all the numbers in the list and add one to the result. let us give the brand name n to the quantity we get. (the value of n doesn't actually matter since the argument should be well-grounded for any list.)

n = (2 × 3 × 5 × 7 × 11 × 13 × 17 × 19 × 23 × 29)+1.

the whole number n, just like any other natural number, can be written as a made from prime numbers. who are these primes, the prime factors of n? we do not sleep with, because we have not calculated them, but there is something we know for sure: all of them divide n. but the number n leaves a remainder of one when divided by any of the prime numbers on our list **2, 3, 5, 7,…, 23, 29**. this is alleged to be a complete list of our primes, but none of them divides n. so, the prime factors of n are not on that list and, in particular, there will be new prime numbers following **29**

4.What are the Properties of Prime Numbers and Composite Numbers?

Properties of Prime Numbers:

1. Prime numbers have only two factors i.e. one and itself

2. The method of finding the prime numbers is called integer factorization or prime factorization.

3. Prime numbers are those numbers that cannot be divided by other numbers except one and itself.

4. For a number to be considered as a prime number, it should be a non-zero whole number.

5. Every number greater than 1 can be divided easily by at least one prime number.

5.Properties of Composite Numbers:

1. Composite numbers are the set of natural numbers which have **3** or more than **3** factors

2. A number **4** is the smallest composite number

3. A composite number with three different factors is known as sphenic number

4. Every composite number can be written as the product of two or more prime numbers.

5. Number "**1**" is not considered as a composite number

6. All even numbers except **2** are composite numbers

6.finding prime numbers using factorization:

the most common method used to find prime numbers is by factorization way.
the steps involved in solving prime numbers exploitation the resolving method are:

step 1: let us find the elements of the fixed number(factors are the number which totally divides the given number)

step 2: after that watch the total number of elements of which number

step 3: therefore, if the total choice of factors is way over two, it is not a prime number but a composite number.

for example: take away a number **45**. is it a prime number?

factors of **45** are **5 x 3 x 3**

since the elements of **45** are more than **2** we can say that **45** is not a high number but a composite number.
now, if we take the example of **11**. the prime factorization of **11** is **1 x 11**. you can see here, there are two factors of **11**. hence, **11** is a prime number.
methods to discover prime numbers
prime numbers can also be found individually other two methods using the general rule. The

7.**methods to find prime numbers are**:

method 1:

two the next numbers which are natural numbers and prime numbers are 2 and 3. apart from 2 and 3, every prime number can be written in the form of 6n + 1 or 6n – 1, where n is a natural number.

for **example**:

6(1) – 1 = 5

6(1) + 1 = 7

6(2) – 1 = 11

6(2) + 1 = 13

6(3) – 1 = 17

6(3) + 1 = 19…..so on

method 2:

to locate the prime numbers more than 40,the general formula that could be used is n2+ n + 41, wherever n are natural numbers 0, 1, 2, ….., 39

for **example:**

(0)2 + 0 + 0 = 41

(1)2 + 1 + 41 = 43

(2)2 + 2 + 41 = 47

(3)2 + 3 + 41 = 53

(4)2 + 2 + 41 = 59…..so on

note: the particular both are the general formula to find the prime numbers. but values for some of authority will not relent a prime number.

8.Conclusion:

We can find any prime of the form by new formula to find prime numbers contain two form**[(m*n)-(m+1)]** and**[(m*n)-(m-1)]**under of a number given. Because that number given depends. Subject formula : $\frac{m}{2}$ **<n <m** **&** $\frac{m}{2}$ **<n ≤m**

m,n postive integer numbers, **m** is even postive integer numberThis form we use cannot be true for all self-centered numbers, cannot be made into a general form, the type of this form is the way that the self-centered numbers are not one after the other

It is suggested that what should be done in this form so that it can be developed and that it can be used more

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