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New Performance of Square of Numbers

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ABSTRACT: The new discovery of squaring number can be use in getting a square of any number be it positive integers or negative integers.

The starting point of Number Theory can be traced back to Piere de Fermat [1707-1783] (D) Number theory is the field of study which was in the news recently for the proof of Fermat's last theorem, and in which Monser Kenku robs shoulders with the like of Barry Marzu. Indeed a representation theoretic theorem of Laglands is a vital ingredient in the works of viriles on Fermat's last theorem (E). As far back as 200 B.C. China discovered a magic square array whose entries are taken from a set of consecutive whole numbers – beginning from 1 – with the property that the numbers in any row, column or diagonal of the array add up to the same sum. This magic square were subsequently introduced into India,Japan and later to Europe (F).

Several investigators have worked on theory of numbers (magic squared) notable among them were (A, B , C ,F, and G). Early as 400 B.C., Pythagorean investigated the properties of numbers and Euclid 300 B.C. proved that there are infinitely many prime (D) one method for finding all prime numbers up to a given n was devised by Erastospthemes of Cynene about 240.B.C.(D) In 1765 an English man named John Wilson devised a method for testing whether a number is a prime (D). In 1896 the French Mathematician Jacques-Hadamard and the Belgian mathematician Charles Jeandela Valliel poussin-jointly established the prime number theorem (C). In this paper, we worked on results of squares of numbers, which can be of good help to any students at any level.

METHODOLOGY.

PERFORMING THE SQUARE OF A NUMBER M .WE CAN APPLY THE ALGORITHM BELOW.

ALGORITHM:-

STEP1 :- LOOK FOR A NUMBER BEFORE M TO BE SQUARE I.E. M-1

STEP2 :- LOOK FOR A NUMBER AFTER M TO BE SQUARE I.E.M+1

STEP3 :- MULTIPLY THE TWO NUMBERS IN STEP1 AND STEP2 TOGETHER

STEP4 :- ADD 1 TO THE RESULT OBTAIN IN STEP3.HENCE THE RESULT.

PROOF

$A^2 = X$

FOLLOWING THE RULES (ALGORITHMS) ABOVE, WE HAVE

$A^2 = (A-1) X (A+1) + 1= X$

$A^2 =A^2 +A-A-1+1=X$

$A^2 = A^2 =X$

IT IS TRUE

EXAMPLE I,II,…VI.

EXAMPLE I:

PERFORMING THE SQUARE OF 3.

ALGORITHM

STEP1: LOOK FOR A NUMBER BEFORE 3 TO BE SQUARE I.E. 2

STEP2: LOOK FOR A NUMBER AFTER 3 TO BE SQUARE I.E. 4

STEP3: MULTIPLY THE TWO NUMBERS TOGETHER I.E. 2X4=8

STEP4: ADD 1 TO THE RESULT OF THE PRODUCT = 8+1 =9

HENCE 3^2 =9

EXAMPLE II

PERFORMING THE SQUARE OF 12 = 144

RULE 1: NUMBER BEFORE 12 = 11

RULE 2: NUMBER AFTER 12 = 13

RULE 3: MULTIPLY THE TWO NUMBERS TOGETHER I.E. 11 X 13 =143.

RULE 4: ADD 1 TO THE RESULT OF THE PRODUCT I.E.143 + 1 = 144

EXAMPLE III

PERFORMING THE SQUARE OF 221 = 48841

RULE 1: NUMBER BEFORE 221 I.E. 220

RULE 2: NUMBER AFTER 221 I.E.222

RULE 3: MULTIPLY THE TWO NUMBERS TOGETHER I.E. 220 X222 = 48840

RULE 4: ADD 1 TO THE RESULT OF THE PRODUCT I.E.48840 + 1 =48841

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EXAMPLE IV
PERFORMING THE SQUARE OF 12500 = 156250000
RULE 1: NUMBER BEFORE 12500 I.E.12499
RULE 2: NUMBER AFTER 12500 I.E.12501
RULE 3: MULTIPLY THE TWO NUMBERS TOGETHER I.E. 12499 X 12501 = 156249999
RULE 4: ADD 1 TO THE RESULT OF THE PRODUCT I.E. 156249999 + 1= 156250000

EXAMPLE V
SQUARE 500500 = 2.5050025×10^{11}
NUMBER BEFORE = 500499
NUMBER AFTER = 500501
PRODUCT OF THE TWO NUMBERS + 1 = 500499 X 500501 + 1 =2.505025×10^{11}

EXAMPLE VI
FIND THE SQUARE OF –3
NUMBER BEFORE –3 I.E. –2
NUMBER AFTER –3 I.E. –4 ,
PRODUCT OF THE NUMBER BEFORE AND AFTER = 8
PRODUCT OF THE NUMBER + 1 = 8 + 1 = 9.

CONCLUSION.
Based on the observations from the examples (I – VI) and the proof given we conclude that the method can be used in getting a square of any number be it positive or negative integers.
Moreover it is discover that when squaring the natural numbers and find out that their differences in two places have common differences to be 2 all round and difference 3 to be 0's.

Squaring of Numbers			Diff 1	Diff 2	Diff 3
1^2	=	1			
			} 3		
2^2	=	4		} 2	
			} 5		} 0
3^2	=	9		} 2	
			} 7		} 0
4^2	=	16		} 2	
5^2	=	25	}9		}0
				} 2	
6^2	=	36	} 11		
				}2	} 0
7^2	=	49	} 13		

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