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A new pattern for multiplying two distinct numbers that end at 5

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Abstract: *Vedic mathematics is fascinating to humanity. We present two new approaches for multiplying two distinct numbers that end at 5. That is, the multiplication of the same numbers is not as straightforward as it appears. Hence, the Multiplication of two distinct numbers ending in 5 is considered in this paper. In which we have to introduce two different illustrations as a new pattern.*

Key Words: *ending in 5, vedic mathematics, new pattern, two distinct numbers.*

1. INTRODUCTION :

Vedic Mathematics is a way of doing calculations using 16 sutras in Sanskrit, which was discovered by Swami Bharati Krishna Tirthaji, a saint in the Shankaracharya Order, from 1911 to 1981 CE. Vedic Mathematics is a book written by the Indian Hindu priest Bharati Krishna Tirthaji [1] and first published in 1965. It contains a list of mental calculation techniques claimed to be in the Vedas. The mental calculation system mentioned in the book is also known by the name as Vedic Mathematics.

If we want to square numbers ending in 5 or multiply two numbers ending in 5, we can calculate very quickly by applying sutra by one more than the one before. Here, we present a new pattern for multiplying two distinct numbers that end at 5. That is, the multiplication of the same numbers is not as straightforward as it appears.

2. OBJECTIVES :

We are currently seeing a global catastrophe in math education. The fear of math is well-known among teachers, parents, and even college students around the world. There is a severe lack of math teachers in the globe, and as a result, nobody wants to become a math teacher. Therefore, the goal is to make math interesting and increase interest, increasing the speed and accuracy in various competitive and regional exams.

Vedic Math might be regarded as a brand-new and developing industry in India. It is receiving a lot of interest and attention thanks to the internet. Vedic mathematics is expected to become more and more popular and beneficial for college students with the help of the Indian government. Vedic mathematics standards have broad applications for students in Grade III and up who are preparing for competitive exams. Vedic Math has a very broad potential future and reach and will eventually shine brightly.

3. METHODS AND PROCEDURE :

A NEW PATTERN FOR MULTIPLYING TWO DISTINCT NUMBERS THAT END AT 5

Method-1: A5XB5=?

Case-1:

Step-1: If A+B is an Odd number, then we will take the RHS answer as 75
Step-2: LHS answer should be (AxB)+C, where C is (A+B)/2
Step-3: A5XB5= (AxB)+C | 75

Case-2:

Step-1: If A+B is an Even number, then we will 25 as the RHS answer.
Step-2: LHS answer should be (AxB)+C, where C is (A+B)/2
Step-3: A5XB5= (AxB)+C | 25

Method-2: A5XB5=?
Case-1:
Step-1: If A+B is an Odd number, we will take RHS as 75, In this method-2, importantly we consider B as the larger left digit and A as a smaller left digit
Step-2: LHS answer should be (Ax(B+1))+C, where C is (B-A)/2
Step-3: A5XB5= (Ax(B+1))+C | 75
Case-2:
Step-1: If A+B is an Even number, we will 25 as the RHS answer. Here, importantly we consider B as the larger left digit and A as the smaller left digit,
Step-2: LHS answer should be (Ax(B+1))+C, where C is (B-A)/2
Step-3: A5XB5= ((Ax(B+1))+C | 25
Illustrative example-1, by using method-1
15x25=?, here A=1, B=2
Step-1: If 1+2 is an Odd number, we will take RHS as 75,
Step-2: LHS answer should be (AxB)+C, where C is (A+B)/2
C = (A+B)/2 , C=(1+2)/2=3/2=1.5=1
RHS=(AxB)+C=(1x2)+1=3
Step-3: 15X25= 3 | 75
Illustrative example-1, by using method-2
15x25=?, here A=1 and B=2, importantly we consider B as the larger left digit and A as the smaller left digit
Step-1: If 1+2 is an Odd number, we will take RHS as 75
Step-2: LHS answer should be (AxB)+C, where C is (B-A)/2,
C = (B-A)/2 , C=(2-1)/2=1/2=0.5=0
RHS=(Ax(B+1))+C=(1x3)+0=3
Step-3: 15X25= 3 | 75
Illustrative example-2, by using method-1
15x35=? , here A=1, B=3
Step-1: If 1+3 is an Even number, we will take RHS as 25,
Step-2: LHS answer should be (AxB)+C, where C is (A+B)/2
C = (A+B)/2 , C=(1+3)/2=4/2=2
RHS=(AxB)+C=(1x3)+2=5
Step-3: 15X35= 5 | 25
Illustrative example-2, by using method-2
15x35=?, here A=1, B=3, here importantly we consider B as the larger left digit and A as the smaller left digit
Step-1: If 1+3 is an Even number, we will take RHS as 25
Step-2: LHS answer should be ((Ax(B+1))+C, where C is (B-A)/2
C = (B-A)/2 , C=(3-1)/2=2/2=1
RHS=(Ax(B+1))+C=(1x4)+1=4+1=5
Step-3: 15X25= 5 | 75
Illustrative example-3, by using method-1
35x65=? , here A=3, B=6
Step-1: If 3+6 is an Odd number,we will take RHS as 75,
Step-2: LHS answer should be (AxB)+C, where C is (A+B)/2
C = (A+B)/2 , C=(3+6)/2=9/2=4.5=4
RHS=(AxB)+C=(3x6)+4=18+4=22
Step-3: 35X65= 22 | 75
Illustrative example-3, by using method-2
35x65=?, here A=3, B=6
Step-1: If 3+6 is an Odd number, we will take RHS as 75
Step-2: LHS answer should be ((Ax(B+1))+C, where C is (B-A)/2
C = (B-A)/2 , C=(6-3)/2=3/2=1.5=1
RHS=(Ax(B+1))+C=(3x7)+1=21+1=22
Step-3: 15X25= 22 | 75
Illustrative example-4, by using method-1
55x95=? , here A=5, B=9
Step-1: If 5+9 is an Even number, we will take RHS as 25,

Step-2: LHS answer should be (AxB)+C, where C is (A+B)/2
C = (A+B)/2 , C=(5+9)/2=14/2=7
RHS=(AxB)+C=(5x9)+7=45+7=52
Step-3: 35X65= 52 | 25

Illustrative example-4, by using method-2

55x95=?, here A=5, B=9
Step-1: If 5+9 is an Even number, we will take RHS as 25
Step-2: LHS answer should be ((Ax(B+1))+C, where C is (B-A)/2
C = (B-A)/2 , C=(9-5)/2=4/2=2
RHS=(Ax(B+1))+C=(5x10)+2=50+2=52
Step-3: 15X25= 52 | 25

4. RESULT AND CONCLUSION :

The following new patterns are some of the best usable ones, based on quickness and easiness and very usable.
Pattern-1: Case-1-If A+B is Odd number, A5XB5= (AxB)+((A+B)/2) | 75
Case-2-If A+B is Even number ,A5XB5= (AxB)+((A+B)/2) | 25
Pattern-2: Case-1- Here importantly we consider B as the larger left digit and A as the smaller left digit,
If A+B is Odd number, A5XB5= (Ax(B+1))+(B-A)/2) | 75
Case-2-If A+B is Even number ,A5XB5= (Ax(B+1))+(B-A)/2) | 25
There is a lot of possibility for the reader who can find their new pattern for multiplying two distinct numbers that end at 5. This kind of exercise needs to be practiced with our kids and school children to remove machine dependency and also to improve decision-making and analytical ability.

REFERENCE :

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