

Few Vedic Math Techniques

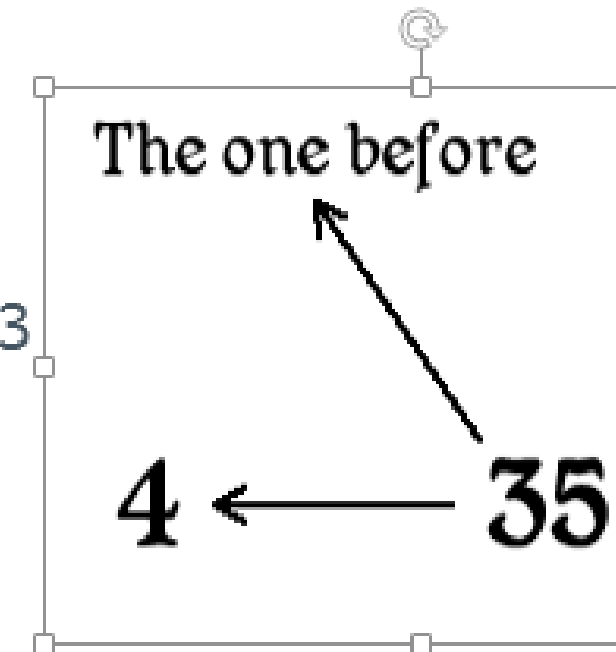
EKĀDHIKENA PŪRVEṆA –

“by one more than the previous One”

Let’s apply this Sutra to the ‘Squaring of numbers ending in 5’

Let’s Find value of 35^2

- For this let’s find the parts of this number as described in the Sutra. Digit 3 appears before digit 5, so 3 is the digit referred as ‘the one before’.
- So, **1 more than the one before** is $3 + 1 = 4$.



$$\begin{array}{r}
 35^2 \\
 \downarrow \times 4 \downarrow \\
 12 \quad 25
 \end{array}$$

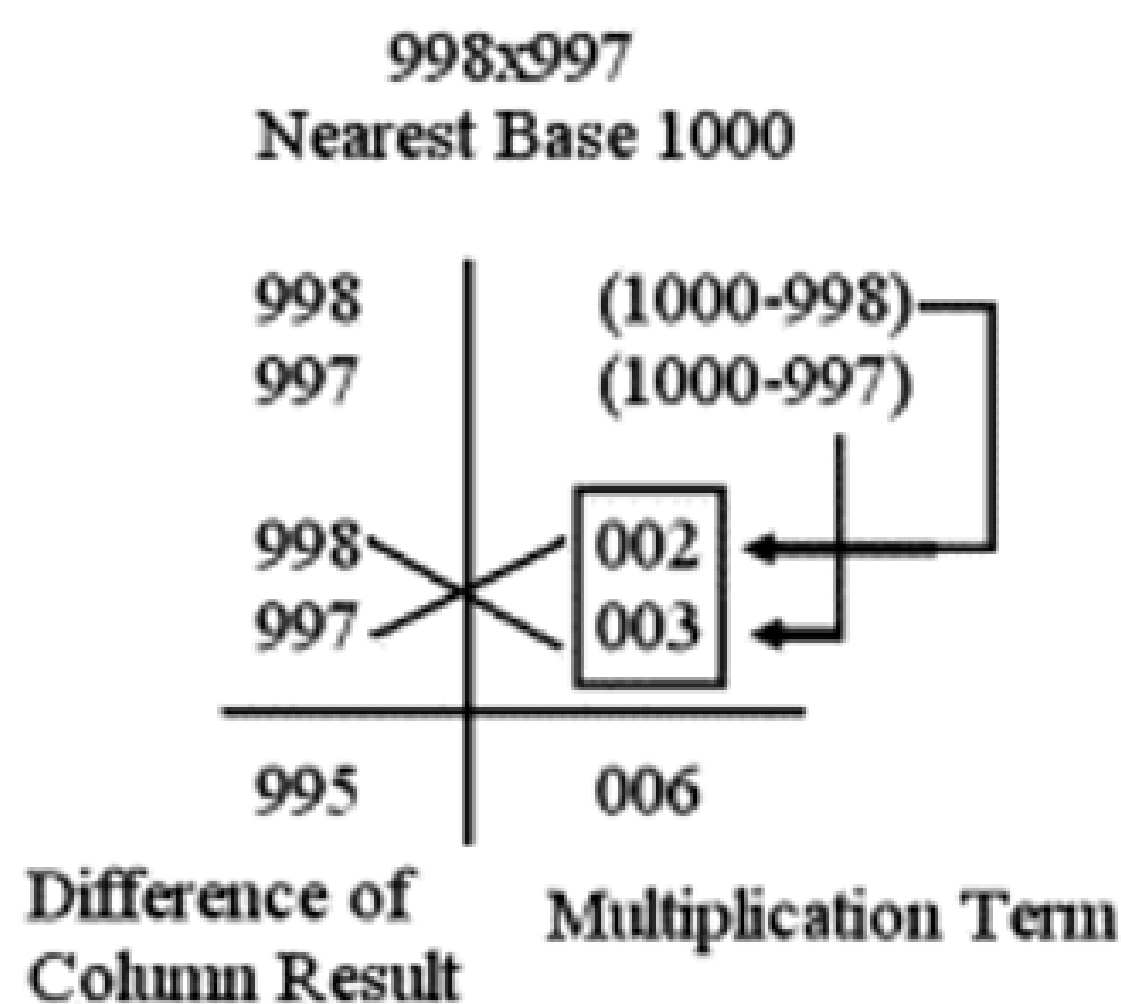
- Now, square the number 5 to get 25.
- Multiply 3 by 4 and place it in left hand side of 25.
- So, the square of 35 is 1225.
- You could try calculating the squares of 45, 55, 65 and so on mentally.

NIKHILAM NAVATAS’CHARAMAM DASATAH –

“All from 9 and the last from 10”

Let’s apply this Sutra to the ‘Multiplication of numbers near a base like 10, 100, 1000 etc.’

Case 1: When both numbers are lower than base. Find 998×997 :



Few Vedic Math Techniques(Contd..)

Multiplication by 11/12/13

Notation used:

consider a '0' before the first digit and the last digit of the number:

$$0|p|q|r|0$$

Multiplication by 11: add (right digit) to the (left digit) of the above series and keep repeating this process till leftmost digit is reached.

Solution:

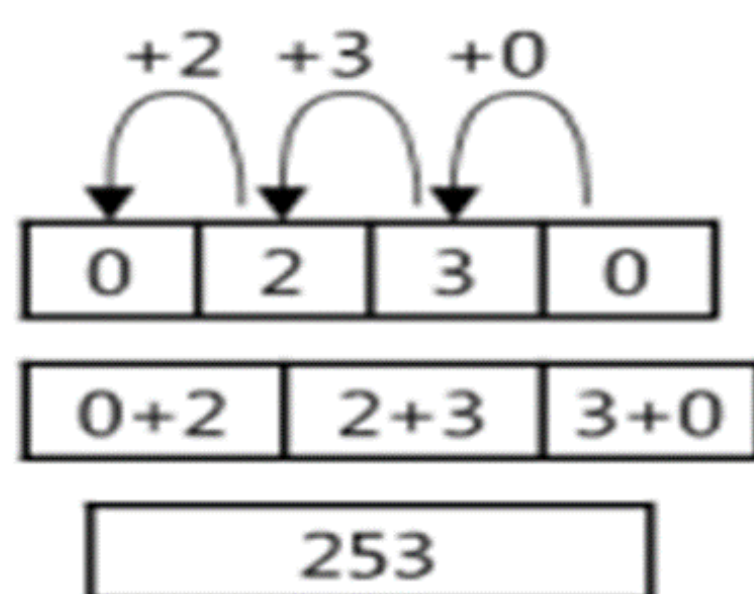
lets consider a '0' before the first digit and the last digit of the number:

$$0|2|3|0$$

$$=0+2|2+3|3+0$$

$$=2|5|3$$

$$=253$$



Solution:

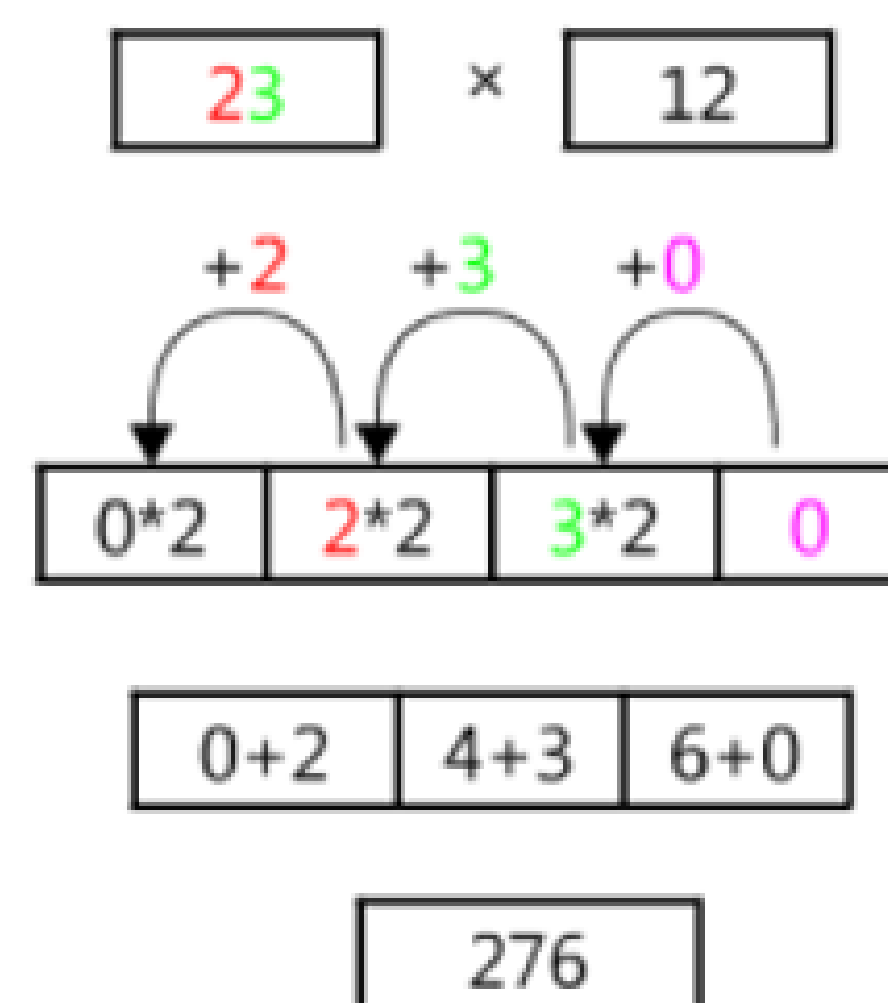
lets consider a '0' before the first digit and the last digit of the number:

$$0|2|3|0$$

$$=0*2+2|2*2+3|3*2+0$$

$$=0+2|4+3|6+0$$

$$=276$$



Multiplication by 12: add (right digit) to the [(left digit)*2] of the above series and keep repeating this process till leftmost digit is reached.