

Adapting Vedic Mathematics in modern technology - Ekanyunena Purvena

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Abstract:

In the last few decades, we have seen tremendous and progressive growth in the field of mathematics. Most of this development has occurred in the domain for higher mathematics; this can be observed through several mathematic symbols being constantly created and used by researchers. However, there is limited research and growth in the field of elementary mathematics. Children learn elementary math through a rigid structure whereby they ultimately lose interest in math. This is where Vedic Mathematics is of considerable benefit, as it provides an avenue that inculcates interest and creativity in math for children.

Index Terms – Vedic maths, squares, multiplications.

INTRODUCTION

Vedic Mathematics is an olden system of mathematics exists in India. In this well-known loom, methods of basic sums are simple, influential and logical. Another benefit is its regularity. Because of these recompense, Vedic Mathematics has develop into an important topic for study[7]. The method use in Vedic Mathematics is mainly base on sixteen Sutras. Vedic mathematics was reconstruct from the very old Indian scriptures (Vedas) by Swami Bharati Krishna Tirthaji Maharaja (1884-1960) after his eight years of study on Vedas[1].

Ekanyunena Purvena: It means one less than previous one or one less than one before, it is considered as a sub – sutra of “Nikhilamnavatashcaramamdashatoh” [3]. This sutra applicable for multiplication of two numbers where multiplicand is any integer and multiplier is 9 or array of 9.

Magical multiplication of numbers made up of digit 9

1. Multiplication of any number with ‘99’.

Note : The given number should be of two digits.

Eg. 56 x 99=-----

56	56	9	9
-1	X 99	-5	-5
55		4	4
Ans: 5544			

Explanation:

- 1) Subtracting 1 from the given number 56, we get 55. Write this number on the left side.
- 2) Subtracting both the digits of 55 i.e. 5 from 9, we get 4, 4 respectively. Write 44 on the right side.
- 3) Thus, multiplication $56 \times 99 = 5544$.

Eg. 78 x 99=-----

78	78	9	9
-1	X 99	-7	-7
77		2	2
Ans: 7722			

Nos.	Value	Answer	Nos.	Value	Answer	Nos.	Value	Answer
1	11x 99	1089	11	21x99	2079	21	44x99	4356
2	23x99	2277	12	43x99	4257	22	99x99	9801
3	34x99	3366	13	76x99	7524	23	60x99	5940
4	45x99	4455	14	89x99	8811	24	81x99	8019
5	78x99	7722	15	65x99	6435	25	55x99	5445
6	43x99	4257	16	63x99	6237	26	92x99	9108
7	88x99	8712	17	17x99	1683	27	95x99	9405
8	56x99	5544	18	71x99	7029	28	59x99	5841
9	33x99	3267	19	28x99	2772	29	90x99	8910
10	66x99	6534	20	73x99	7227	30	10x99	990

2. Multiplication of any number with ‘999’.

Condition: The given number should be of three digits.

Eg. 846 x 999=

846	846	9	9	9
-1	X 999	-8	-4	-5
845		1	5	4
Ans: 845154				

Explanation:

- 1) Subtracting 1 from the given number 846, we get 845. Write this number on the left side.
- 2) Subtracting the digits 8, 4, 5 of the given number 845 from 9, we get 1, 5, 4 respectively. Write 154 on the right side.
- 3) Thus, multiplication 846 x 999 = 845154.

Eg.

589 x 999=-----

589	589	9	9	9
-1	X 999	-5	-8	-8
588		4	1	1
Ans: 588411				

Nos.	Value	Answer	Nos.	Value	Answer	Nos.	Value	Answer
1	121x 999	120879	11	210x999	209790	21	440x999	439560
2	243x999	242757	12	423x999	422577	22	999x999	998001
3	314x999	313686	13	706x999	705294	23	600x999	599400
4	405x999	404595	14	849x999	848151	24	811x999	810189
5	798x999	797202	15	615x999	614385	25	555x999	554445
6	433x999	432567	16	623x999	622377	26	926x999	925074
7	888x999	887112	17	177x999	176823	27	958x999	957042
8	656x999	655344	18	771x999	770229	28	590x999	589410
9	303x999	302697	19	288x999	287712	29	990x999	989010
10	636x999	635364	20	773x999	772227	30	100x999	99900

3. Multiplication of any number with ‘9999’.

Condition: The given number should be of four digits.

Eg. 8463 x 9999=

8463	8463	9	9	9	9
-1	X 9999	-8	-4	-6	-2
8462		1	5	3	7
Ans: 84621537					

Explanation:

1) Subtracting 1 from the given number 8463, we get 8462. Write this number on the left side.

2) Subtracting the digits 8, 4, 6, 2 of the given number 8462 from 9, we get 1, 5, 3, 7 respectively. Write 15374 on the right side.

3) Thus, multiplication 8462 x 999 = 84621537.

Eg.

5869 x 9999=-----

5869	5869	9	9	9	9
-1	X 9999	-5	-8	-6	-8
5868		4	1	3	1
Ans: 58684131					

Nos	Value	Answer	Nos	Value	Answer	Nos	Value	Answer
1	1221x 9999	12208779	11	2170x9999	21697830	21	4400x9999	43995600
2	2243x9999	22427757	12	4238x9999	42375763	22	9999x9999	99980001
3	3114x9999	31136886	13	7065x9999	70642935	23	6000x9999	59994000
4	4055x9999	40545945	14	8449x9999	84481551	24	8111x9999	81101889
5	7978x9999	79772022	15	6125x9999	61243875	25	5555x9999	55544445
6	4373x9999	43725627	16	6233x9999	62323767	26	9266x9999	92650734
7	8848x9999	88471152	17	1771x9999	17708229	27	9583x9999	95820417
8	6586x9999	65853414	18	7751x9999	77502249	28	5907x9999	59064093
9	3033x9999	30326967	19	2888x9999	28877112	29	9900x9999	98990100
10	6366x9999	63653634	20	7733x9999	77322267	30	1000x9999	9999000

Conclusion and future scope

Design with Vedic maths and vedic sutras is seen to be efficient in alacrity and region of basic physics and basic mathematics with respect to simple equations.

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