9 MAY 2017
Tuesday

MULTIPLICATION OF NUMBERS

1) Numbers close to 100.

a)
$$\begin{array}{r} 101 \quad (+1) \\ \times 111 \quad (+11) \end{array}$$

$(101+11)\times 100$

$+ \quad (11\times 1)$

$\Rightarrow$ 11200
$+ \quad 11$
11211

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Wednesday

Steps: 1) 101 is 1 more than 100. So, (+1)
· 111 is 11 more than 100. So (+11)

~~[illegible]~~ side.

2) Add (101 + 11) OR
Add (111 + 1)

3) Since we are using 100 as the base, multiply it with 100.

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4) Finally add (11 × 1) to the answer.

b)
$$\begin{array}{r} 94 \quad (-6) \\ \times 98 \quad (-2) \end{array}$$

$(94-2)\times 100$

$+ \quad (-6)\times(-2)$

= 9200
$+ \quad 12$
9212

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Friday

2) Numbers close to 200

a)
$$\begin{array}{r} 202 \quad (+2) \\ \times 205 \quad (+5) \end{array}$$

$(202+5)\times 200$

$+ \quad (+2)\times(+5)$

= 41400
$+ \quad 10$
41410

APR 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
·	·	·	·	·	·	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	·	·	·	·	·	·

JUN 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
·	·	·	·	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29	30	·	·	·	·	·	·	·	·

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3) Numbers close to 300

a) 303 (+3)
× 306 (+6)

(303+6) × 300
+ (3×6)

= 309 × 300
+ 18

= 92700
+ 18

92718

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4) Numbers close to 50

a) 52 (+2)
× 56 (+6)

(52+6) ÷ 2 × 100
+ (2×6)

= 2900
+ 12

⇒ 2912

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5) Multiplication of 2-digit numbers.

a) (53 × 47)

= 53
47

(5×4) (5×7+4×3)(7×3)

= 20 | 47 | 21

= 2491

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Steps: 1) Multiplication of elements in column 2.
2) Cross multiplication of elements
3) Multiplication of elements in column 1.

FOR EG:

Column 1 → Column 2

5	3 → Row 1
4	7 → Row 2.

b) $\begin{array}{r} 46 \\ \times 26 \end{array}$

$(4\times2)\,(4\times6 + 6\times2)\,(6\times6)$

$8 \mid 36 \mid 36$

$\Rightarrow 1196$

6) Multiplication of 3-digit numbers.

a) $\begin{array}{r} 112 \\ \times 223 \end{array}$

$(1\times2)\,(1\times2 + 1\times2)\,(1\times3 + 2\times2 + 2\times1)\,(1\times3 + 2\times2)\,(2\times3)$

$2 \mid 4 \mid 9 \mid 7 \mid 6$

$= 24976$

Step 1) Multiplication of elements in Column 3.

2) Cross multiplication of elements in Column 2 & Column 3

3) Cross multiplication of elements in Column 1 & Column 3 & Then multiplication of elements in Column 2.

4) Cross multiplication of elements in Column 1 and Column 2.

5) Multiplication of elements in Column 1.

6) If required, use the Carry-Forward technique.

	Column 1	Column 2	Column 3
Row 1	1	1	2
Row 2	2	2	3

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7) Multiplication of n-digit numbers.

8639 × 675 ⇒ 8639 × 0675

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(8×0) (8×6 + 6×0) (8×7 + 0×3 + 6×6) (5×8 + 0×9 + 6×7 + 3×6) (6×5 + 6×9 + 3×7) (3×5 + 9×7)

⇒ 0 | 48 | 92 | 100 | 105 | 78 | 45.

5831325

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Steps: 1) Multiplication of elements in the nth column.

2) Multiplication of elements in Column 3 & Column 4 Cross multiply.

3) Cross multiplication of elements in Column 2 & Column 3 & Multiply elements in Column 3.

4) Cross multiplication of elements in Column 1 & Column 4 & Column 2 & Column 3.

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5) Cross multiply elements in Column 1 & Column 3 & then multiply elements in column 2

6) Cross multiply elements in Column 1 & Column 2

7) Multiply elements in Column 1.

	Column 1	Column 2	Col 3	Column 4
Row 1	8	6	3	4
Row 2	0	6	7	5

...ation of numbers
one zero in them in
the middle.

1)
$$\begin{array}{r} 807 \\ 908 \\ \hline \end{array}$$

8×9 | 8×8 + 9×7 | 7×8

72 | 127 | 56

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Here, make sure you use 2-digit

~~50~~,

~~206~~

732756

Step : 1) Column three multiplication
2) Cross multiplication of column 1 & column 3
3) Column 1 multiplication

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	.	.	.	.	.	.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	.	.	.	.	.	.

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ii) Multiplication of numbers with two zeroes in them in the middle.

1)
$$\begin{array}{r} 9008 \\ \times 6006 \\ \hline \end{array}$$

(9×6) | (9×6 + 8×6) | (6×8)

54 | 102 | 48

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Here, make sure, you use three digits.

54 102 048

Step 1) Column 1 multiplication
2) Cross multiply the elements of column 1 and column 4
3) column 1 multiplication

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.	.	.	.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
18	19	20	21	22	23	24	25	26	27	28	29	30	.	.	.	.	.	.	.	.	

Multiplication of numbers with three zeros in them in the middle.

40007
150009

(4×15) (4×9 + 15×7) (7×9)

60 | 141 | 63

Here, make sure, you write 3 digits

So, 6001410063

Steps 1) Column 6 multiplication
2) Column 2 & Column 6 cross multiplication
3) Column 1, 2, multiplication

Multiplication by diagram

729 × 827.

It is a (3×3) Table.

	8	2	7
7	5 / 6	1 / 4	4 / 9
2	1 / 6	0 / 4	1 / 4
9	7 / 2	1 / 8	6 / 3

5 | 8 | 21 | 17 | 18 | 3

⟹ 602883.

Steps: 1) Write 729 vertically & 827 horizontally or vice versa
2) Since there are 3 digits max. in one number, it is a (3×3) table.