VEDIC MATHS

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Multiplication by 5, 25, 125

- Write 5 in Terms of 10 ie $\frac{10}{2} = 5$

So eg 8×5

$\frac{8 \times 10}{2} = 40$

$8 \times 25 = \frac{8}{4} \times 100 = 200$

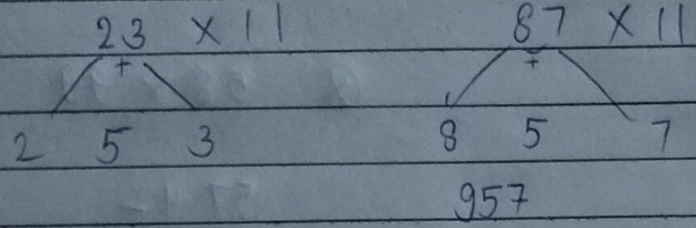
Eg) 8×125 $\left(\frac{5}{2}\right)^3$

$\frac{8 \times 1000}{8}$

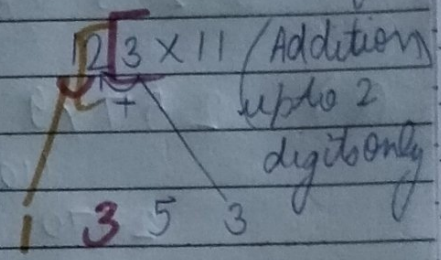
Q) 37×25, 147×25, 122×125, 256×125

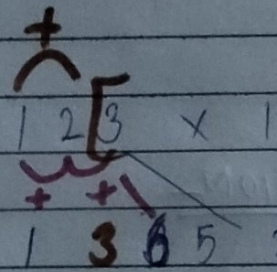
Sol 925, 3675, 15250, 32000

Multiplication by 11



No. of ones





$123 \times 11 = 123(10+1)$

1230

$+123$

1353

111 as $(100+10+1)$

Q) 79×11

869

Q) 123×11

1353

Q) 249 × 11

2 7 39

Q) 849 × 11

9339

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MULTIPLICATION BY 9, 99, 999

Rule - No. of digits should be same
① Sub 1 from no.

8 × 9
−1
7 2

72 × 99
−1
71 28

643 × 999
−1
642 357

043 × 999
−1
042 957

Q) 257 × 9
(10−1)
2570
257
2313

Q 58 × 99

5742

2 DIGIT MULTIPLICATION

23 × 12
276

23 × 15
345

Q) 86 × 47
4042

Q) 42 × 48

Rule - If sum of unit digits are coming out to be 10 and other digits are same

Succession
5 ← 4 2) × Multiply
4 8)
20 16

Q) 53 × 57 = 3021

Q) 66 × 64 = 4224

Q) 55 × 55 = 3025

Q) 41 × 49 = 2009

Q) 12 (11 2) × 118 = 13216

SQUARE

Base Value Method $(44)^2$

Base = 40

$(44+4) * 40 + 4^2$

(44+4) greater or less; 40 Base; 4^2 greater or less

1936

$(45)^2$ Above method unit digit sum as 10

2025

Q) $(46)^2$

$(40+6) * 40 + 36$

$1600 + 240 + 36$

2376

Q) $(396)^2$ 156816

Q) $(112)^2$ 12544