

27/05/24

Apti → Quant.

Vedic Maths

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① Trick one - How to multiply any number $\times 5, \times 125, \times 25$

↳ Multiplication by 5. $5 = \frac{10}{2}$

★ Half the no and add a zero (multiply by 10)

NO = 88 → Half = 44 → ^{→ $\times 10$} add '0' → 440

NO = 89 → Half = 44.5 → ^{→ $\times 10$} add '0' → 445

↳ Multiplication by 25. = $\frac{100}{4}$

★ Divide by 4 & put 2 zero (multiply by 100)

NO = 88 → divide by 4 = 22 → (2 zeros | $\times 100$)
= 2200

NO = 84812 → divide by 4 = 21203 → $\times 100$
= 2120300

↳ multiply by 125

↳

$\frac{100}{4} \times 5$ or $\frac{500}{4}$

divide by 4 & multiply by 500.

② Trick 2nd How to find No. closer to 100% -

$$\rightarrow \begin{array}{r} 98 - 2(100-98) \\ 96 - 4(100-96) \\ \hline 94 \quad 08 \end{array} \quad \left\{ 98 \times 96 = 9408 \right\}$$

\rightarrow always consider 2 digits.

$$\begin{array}{r} 98 \xrightarrow{-2} \\ 96 \xrightarrow{-4} \end{array} \quad \left\{ 98-4 \text{ or } 96-2 = 94 \text{ it will always be same.} \right\}$$

$$\rightarrow \begin{array}{r} 96 \xrightarrow{-4} \\ 91 \xrightarrow{-9} \\ \hline 87 \quad 36 \end{array}$$

$$\left\{ \begin{array}{r} 103 \xrightarrow{+3} \\ 104 \xrightarrow{+4} \\ \hline 107 \quad 12 \end{array} \right\}$$

* Same method for No. \uparrow than 100 instead of Subs(-) we will do add(+)

$$\rightarrow \begin{array}{r} 107 + 7 \\ 101 + 1 \\ \hline 108 \quad 07 \end{array}$$

$$\begin{array}{r} 107 \quad 07 \\ 112 \quad 12 \\ \hline 119 \quad 84 \end{array}$$

$$\left\{ 107 \times 112 = 11984 \right\}$$

★ Trick 3: 2x2 Multiplication



$$\begin{array}{r} 15 \swarrow \searrow 3 \\ 4 \swarrow \searrow 4 \end{array}$$

$$4 \times 3 = 12$$

carry

$$23 \quad 32$$

$$5 \times 4 = 20$$

$$4 \times 3 = 12$$

$$\begin{array}{r} 32 \\ + 1 \\ \hline 33 \end{array}$$

carry

$$5 \times 4 = 20 + 3 = 23$$

carry

$$\begin{array}{r} 6 \quad 2 \\ \times 5 \quad 8 \\ \hline 3596 \end{array}$$

$$1 + 10 + 48 = 59$$

$$5 + 30 (5 \times 6) = 35$$

$$\begin{array}{r} 5 \quad 3 \\ 5 \quad 3 \\ \hline 2809 \end{array}$$

$$3 \times 3 = 9$$


$$5 \times 3 = 15$$

$$5 + 3 = 8$$

carry

$$5 \times 5 = 25 + 3 = 28$$

carry

Trick 04 : 3×3 multiplication. 

$$\begin{array}{r} 1 \quad 2 \quad 3 \\ 3 \quad 2 \quad 1 \\ \hline 8 \quad 3 \end{array}$$

$$\begin{array}{r} 1 \quad 2 \quad 3 \\ 3 \quad 2 \quad 1 \\ \hline 4 \quad 8 \quad 3 \end{array}$$

$$1 \times 1 + 3 \times 3 + 2 \times 2 = 9 + 4 + 1 = 14$$

carry

$$\begin{array}{r} 1 \quad 2 \quad 3 \\ 3 \quad 2 \quad 1 \\ \hline 3 \quad 9 \quad 4 \quad 8 \quad 3 \end{array}$$

carry

$$3 \times 2 + 1 \times 2 + 1 = 9$$

carry

$$3 \times 1 = 3$$

$$\begin{array}{r} 4 \quad 3 \quad 2 \\ 5 \quad 2 \quad 3 \\ \hline 22 \quad 5 \quad 9 \quad 3 \quad 6 \end{array}$$

$$9 + 4 = 13 \quad (\text{carry} = 1)$$

$$12 + 10 + 6 = 28 + 1 = 29$$

$$23 + 2 = 25 \quad (\text{carry} = 2)$$

★ If 3×2 or 2×3 like 532×34

add 1 zero & solve it like 3×3 .

$$\begin{array}{r} 5 \quad 3 \quad 2 \\ 0 \quad 3 \quad 4 \\ \hline 1 \quad 8 \quad 0 \quad 8 \quad 8 \end{array}$$

$$\begin{array}{c} 1 \leftrightarrow 3 \\ 1 \leftrightarrow \end{array}$$

carries