

Calculator Tricks

Trick no. 1 How to calculate $2^{n/4}$ of a number

Mango Method: $2^3 \rightarrow \text{Type } 2 \times 2 \times 2 = 8$
 $2^{13} \rightarrow \text{Type } 2 \times 2 \times 2 \dots$

ARI Method: $2^3 \rightarrow \text{Type } 2 \times = =$
 $2^{13} \rightarrow \text{Type } 2 \times = 12 \text{ times}$

Generalised Approach:

- ① TYPE Number
- ② TYPE X
- ③ TYPE = $(2^{n/4} - 1)$ times

Variation 2 of trick 1 $\Rightarrow 3^{12} \rightarrow 3 \times = 11 \text{ times}$
 $3^{4 \times 3} \rightarrow 3 \times = = \times = =$
 $3^{2 \times 3} \rightarrow 3 \times = \times = \times = =$

Variation 3 of trick 1 $\Rightarrow 3^{11} \rightarrow \text{Type } 3 \times = \text{Counter (12)}$
 $2^{17} \rightarrow \text{Type } 2 \times = \text{Counter (18)}$

i.e. $2^n \rightarrow \text{Type } 2 \times = \text{Counter (1+n)}$

Summary of Trick 1

2^5
 $2 \times = = =$
 32

2^{15}
 2×3
 $2 \times = = = \times = =$
 32,768

2^{17}
 $2 \times = \text{Counter (18)}$
 1,31,072

Trick no. 2 How to calculate $\log_2$ of a no.?

Hango Method : $\frac{1}{2^3} = 1 \div 2 \div 2 \div 2 = 0.125$

$\frac{1}{2^{13}} = 1 \div 2 \div 2 \div 2 \dots \dots \dots$

खास Method : If we have to convert any number from Denominator to Numerator we always type $\div$

$\frac{1}{2^3} \rightarrow \text{Type } 2 \div = = =$

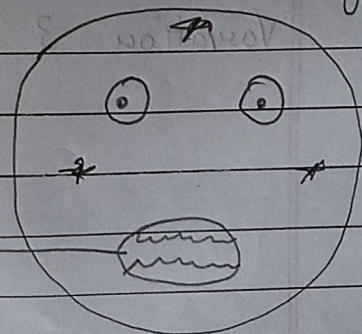
Generalised Approach :

Type Number

Type $\div$

Type $=$ खोपड़ी times

Danger भाई



$=$ खोपड़ी times इन्का
या कि $(\text{खोपड़ी} - 1)$ time

$\frac{4}{3^3} \rightarrow \text{Type } 3 \times = \text{count}(10) \div = \times 4$

Trick no. 3 जो भी खोपची में होता है वो
अल्टी - पल्टी मारकर खोपड़ी पर
आ जाता है।

खोपचा = base $\sqrt[3]{27} \rightarrow 27$ का cube root
खोपड़ी = power / indices $(\rightarrow 27^{1/3})$

$\sqrt[3]{8}$ = $8^{1/3}$ $\rightarrow$ खोपड़ी

जिसका कोई नहीं होता उसका
2 तो होता ही है

$$\sqrt{8} = 8^{1/2}$$

$$\sqrt{16} = 16^{1/2}$$

Trick no. 4 How to calculate डबल-इंकार खाँपड़ी?

Mango Method: $(27)^{1/3} \rightarrow (3 \times 3 \times 3)^{1/3} = 3^{1 \times 1/3} = 3$ Aus.
 $(27.10)^{1/3} \rightarrow ?$ टॉय टॉय फिक्स

$(16)^{1/4} \rightarrow (2 \times 2 \times 2 \times 2)^{1/4} = 2^{1 \times 1/4} = 2$ Aus.

$(16.10)^{1/4} \rightarrow ?$ टॉय टॉय फिक्स

PART - A

खास Method: हर $1/2$ के लिए calculator पर $\sqrt{\quad}$ का Button होता है।

$16^{1/2} \rightarrow \text{Type } 16 \sqrt{\quad} = 4$ Aus.

$16^{1/4} \rightarrow 16^{1/2 \times 1/2} \rightarrow \text{Type } 16 \sqrt{\quad} \sqrt{\quad} = 2$ Aus.

$(16.10)^{1/4} \rightarrow 16.10 \sqrt{\quad} \sqrt{\quad} = 2.003$ Aus.

[Only for 2 (s) power]

PART - B

पहाड़ी Method

$(8)^{1/3}$

$D=3$

$N=1$

★ It is according to the question

Type $\div D \times N$
of खाँपड़ी

Type $\sqrt{\quad}$ 12 times, Type-1

Type $\times 1$, Type-2 $\times 12$ times

$$3^{2.6} = 3^{2.6}$$

$$9^{1.6} = 9^{1.6}$$

If we have to change the sign of the power we can do by reversing the number.

$$2^{-3} = \frac{1}{2^3}$$

$$\frac{7}{8^3} = 7 \times 8^3$$

$$2^3 = \frac{1}{2^{-3}}$$

For changing the sign +/- ex: 3×-2
 3×2 +/- = -6

$(1.10)^{-7.3} \rightarrow$ Type 1.10

$\sqrt{\quad}$ 12 times

-1

$\div$ 1

$\times$ 7.3

+/-

+1

(x=) 12 times

0.4987 Aus.

Trick no. 5 How to calculate log on calculator

Mango Method: $\log 13 \rightarrow$ Antilog of $\log 13$,
See log table

$$\begin{aligned} \log 100000 &= 5, & \log 10 &= 1, & \log 100 &= 2, & \log 1000 &= 3 \\ \log 10000 &= 4 \end{aligned}$$

अन्य Method:

$\log 13 \rightarrow$ Type 13
 $\sqrt{\quad}$ 19 times
Type -1

Type $\times 227695 \approx 1.1139$ Ans.

Generalised Approach:

Type : Number (Variable)

Type : $\sqrt{\quad}$ 19 times (Fixed)

Type : -1 (Fixed)

Type : $\times 227695$ (Fixed)

Trick no. 6 - अल Sum करे 1

Mango Method :

Q. Calculate sum upto 15 terms :

2, 5, 8, 11, ...

Diff. = 3

2 + 5 + 8 + 11 + 14 + 17 + 20 + 23 + 26 + 29 + 32 + 35 + 38 + 41 = 44

Sum = 345

ब्रह्म

Method :

Type

→ 2

+ 3

Counter (16)

GT

+ 2

Ans. 345

Generalised Approach :

Type : First Term

Type : + Common Difference

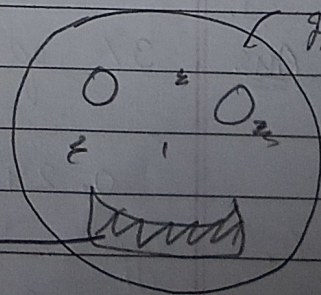
Type : = Counter (n+1)

Type : GT + first term

GT First Term

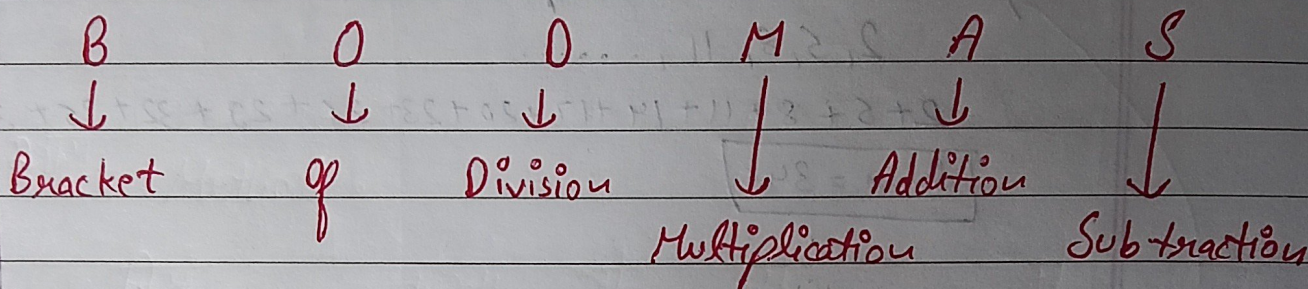
GT (n) $\frac{n(n+1)}{2}$

GT - Grand Total



Trick no. 7 BODMAS

- Sequence of operations



Q. 3% of $\frac{8}{9} + \frac{9}{16} \times \frac{2}{3} \times 24 \times 9 - 6$

Ans.

$$\frac{8}{9} + \frac{9}{16} \times \frac{2}{3} \times 24 \times 9 - 6$$

$$0.8888 + 0.5625 \times 0.6666 \times 24 \times 9 - 6$$

$$0.8888 + 80.9919 - 6$$

$$81.8807 - 6$$

$$\boxed{75.8807} \text{ Ans.}$$

Q. 3% of $8 \div 9 \times 3 + \{4 - 6 \times 3\} + \frac{8}{3}$

Ans.

$$3\% \text{ of } 8 \div 9 \times 3 - 14 + \frac{8}{3}$$

$$0.24 \div 9 \times 3 - 14 + \frac{8}{3}$$

$$0.02666 \times 3 - 14 + 2.6666$$

$$0.07998 - 14 + 2.6666$$

$$\boxed{-11.25342} \text{ Ans.}$$

Q. 0.1% of $8 \times 10 + \left\{ \frac{\frac{10}{2} - 7}{2 \times 10 - 8 - 6} \right\} \times 14$

Ans. 0.1% of $8 \times 10 + \left\{ \frac{-2}{6} \right\} \times 14$

0.1% of $8 \times 10 - 0.3333 \times 14$

$0.008 \times 10 - 0.3333 \times 14$

$0.08 - 4.6662$

-4.5862 Ans

Trick no. 8 Calculator की Memory

Mango Method : $2 + 3 - 7 \rightarrow -2$ Ans.

$$\frac{2}{7} + \frac{3}{0.7} - 7 \times 12 \rightarrow 0.2857 + 4.2857 - 84 = -79.42 \text{ Ans.}$$

असम Method :

जिसे + करना हो, उसे M+ में डालो
जिसे - करना हो, उसे M- में डालो

Press MRC to know the answer

(i) Type $2 \div 7$ M+
Type (iii) 7×12 M-

Type (ii) $3 \div 0.7$ M+
(iv) Type MRC $\rightarrow -79.42$

Q. $\frac{2}{\frac{1}{3} + \frac{1}{4}}$

A. Type $4 \div =$ M+ } MRC $\div = \times 2 = 3.4285$ Ans.

Q. $x = 4 + \frac{1}{4 + \frac{1}{4 + \frac{1}{4 + \frac{1}{4}}}}$

A. Type $4 \div = +4 \div = +4 \div = +4 \div = +4$

4.2360 Ans.

Basic Identities

$$1. (a+b)^2 = a^2 + b^2 + 2ab \quad (a=2, b=1)$$

$$\rightarrow (2+1)^2 = 2^2 + 1^2 + 2 \times 2 \times 1$$

$$3^2 = 4 + 1 + 4$$

$$9 = 9$$

Hence Proved

$$2. (a-b)^2 = a^2 + b^2 - 2ab \quad (a=2, b=1)$$

$$\rightarrow (2-1)^2 = 2^2 + 1^2 - 2 \times 2 \times 1$$

$$1^2 = 4 + 1 - 4$$

$$1 = 1$$

Hence Proved

$$3. a^2 - b^2 = (a+b)(a-b) \quad (a=2, b=1)$$

$$\rightarrow 2^2 - 1 = (2+1)(2-1)$$

$$4 - 1 = 3 \times 1$$

$$3 = 3$$

Hence Proved

$$4. (a+b)^3 = a^3 + b^3 + 3ab(a+b) \quad (a=2, b=1)$$

$$\rightarrow (2+1)^3 = 2^3 + 1^3 + 3 \times 2 \times 1 (2+1)$$

$$3^3 = 8 + 1 + 18$$

$$27 = 27$$

Hence Proved

$$5. (a-b)^3 = a^3 - b^3 - 3ab(a-b) \quad (a=2, b=1)$$

$$\rightarrow (2-1)^3 = 2^3 - 1^3 - 3 \times 2 \times 1 (2-1)$$

$$1^3 = 8 - 1 - 6$$

$$1 = 1$$

Hence Proved



$$6. a^3 + b^3 = (a+b)(a^2 + b^2 - ab) \quad (a=2, b=1)$$

$$\rightarrow 2^3 + 1^3 = (2+1)(2^2 + 1^2 - 2 \times 1)$$

$$8 + 1 = 3 \times (4 + 1 - 2)$$

$$9 = 9$$

Hence Proved

$$7. a^3 - b^3 = (a-b)(a^2 + b^2 + ab) \quad (a=2, b=1)$$

$$\rightarrow 2^3 - 1^3 = (2-1)(2^2 + 1^2 + 2 \times 1)$$

$$8 - 1 = 1 \times (4 + 1 + 2)$$

$$7 = 7$$

Hence Proved