

DAY 24

MCA CET 2025

REASONING

**MATHEMATICAL
OPERATIONS**



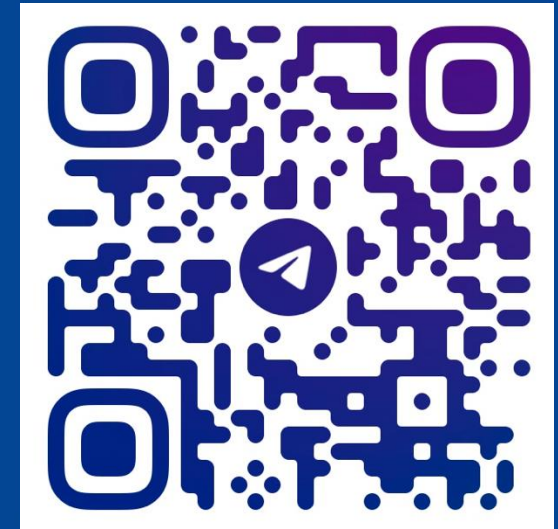
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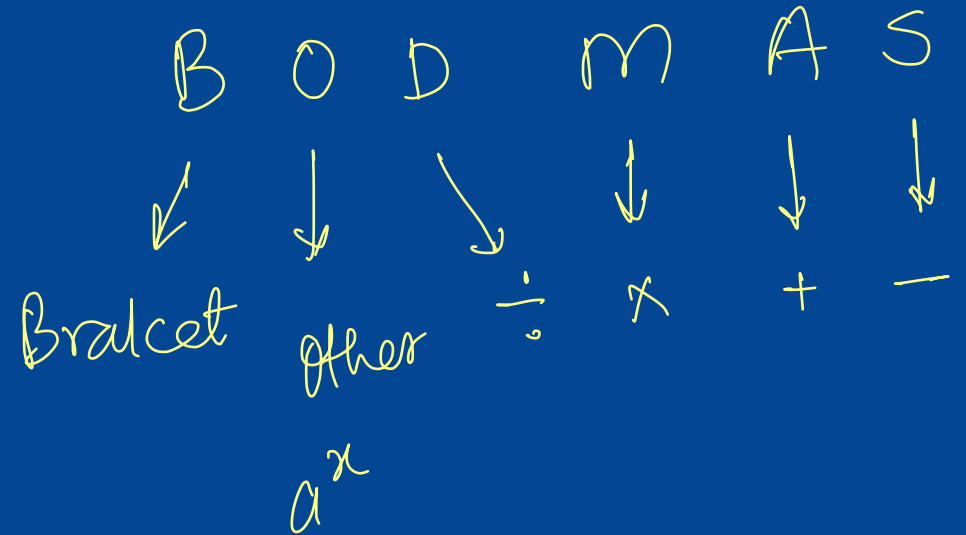
Mathematical Operations

Use of BODMAS rule to solve questions based on mathematical operations

$$5 + \underline{2 \times 3} + \underline{4 \div 2}$$

$$5 + 6 + 2$$

$$11 + 2 = 13$$





Types of Questions

- Sign based (Alter / Interchange)
- Balancing of equation using signs (appropriate signs)
- Trick based



Sign based

Which two signs should be interchanged to make the given equation correct?

$$4 + 8 \times 12 \div 6 - 4 = 8$$

(a) \times and $+$

(b) $+$ and \div

(c) $-$ and $+$

(d) \div and $-$

$$\frac{3}{2}$$

$$4 \div 8 \times 12 + 6 - 4$$

$$\frac{1}{2} \times 12 \quad 6 + 6 \quad 12 - 4 \quad = 8$$



Balancing of equation using signs

24 4 5 4

(a) ~~$x + 4 = 20$~~

~~(b) $= x + 4$~~

(c) ~~$+ x = 20$~~

~~(d) $= + x$~~

$24 = 4 + 5 \times 4 \rightarrow 20$
 $24 = 4 \times 5 + 4$
 $\leftarrow 20$



Trick based

$$34 \times 12 = 23$$

$$\frac{46}{2} = 23$$

$$104/2 = \downarrow 136$$

If $34 * 12 = 23$, $28 * 76 = 52$, $97 * 39 = 68$ then what is the value of $37 * 73 = ?$

(a) 32

(b) 25

(c) 55

(d) 65

$$\frac{110}{2} = 55$$



Which two signs need to be interchanged to make the following equation correct?

$$32 - 8 \div 4 + 5 \times 6 = 30$$

(a) \times and $+$

(b) \times and \div

~~(c) \div and $-$~~

(d) \div and $+$

$32 \div 8 - 4 + 5 \times 6$
 ~~$32 - 8 \div 4 + 5 \times 6$~~
 $4 - 4 + 30$



Which of the following pairs of numbers and signs, when their positions are interchanged, will correctly solve the given mathematical equation?

$$17 * 15 + 3 - 11 / 3 = 45$$

- ~~(a) 15 and 11, + and *~~
- (b) 17 and 3, - and /
- (c) 15 and 11, - and *
- (d) 15 and 11, + and -

$$\begin{array}{r} \underline{17} \boxed{+} \underline{11} \boxed{\times} 3 \boxed{-} \underline{15} \boxed{/} 3 = 45 \\ 17 + 33 \quad - \quad 5 = 45 \\ \hline 50 \end{array}$$



If + means -, - means *, * means /, and / means +, then what will be the value of the following expression ?

$$13 - 3 + 15 * 3 / 5 = ?$$

- (a) 41 (b) 37 (c) 42 (d) 39

$$\underline{13 \times 3} - \underline{15 / 3} + 5 =$$

$$39 - \cancel{5} + \cancel{5} = 39$$



Select the correct equation after interchanging operations '+' and '-' and numbers '4' and '8'.

(a) $2 + 8 - 4 = 9$ ✗

(c) $8 + 4 - 2 = 10$

$2 - 4 + 8 = 6$

~~(b)~~ $4 - 8 + 11 = 1$

(d) $4 - 8 + 11 = 8$

$8 + 4 - 11 = 1$



Which two numbers should be interchanged to make the given equation correct?

$$7 + 24 \times 3 - 72 \div 18 = 58$$

~~(a) 18 and 24~~

(b) 3 and 7

(c) 7 and 18

(d) 72 and 24 \times

$$7 + 24 \times 3 - 72 \div 18$$

$$7 + 18 \times 3 - 72 \div 24$$

$$7 + 54 - 3$$

$$61 - 3 = 58$$



Select the correct combination of mathematical signs to replace the sign(*) and balance the following equation.

$$15 * 4 * 26 * 2 * 7 * 66$$

SSC CHSL 19/03/2020 (Evening)

(a) +, x, \div , -, =

(b) x, +, -, \div , ~~*~~ $15 _ 4 _ \underline{26 \div 2} = 7 = 66$

(c) +, x, -, \div , ~~*~~

~~(d) x, +, \div , -, =~~

$$\underline{15} \times \underline{4} \pm 13 - 7 = 66$$

$$\underline{73 - 7} \text{ (66)} \quad \underline{60 + 13 - 7} =$$



Select the correct combination of mathematical signs to sequentially replace the * signs and to balance the following equations:

$$11 * 15 * 78 * 6 * 18 * 160$$

(a) $+$, \times , \div , $-$, $=$

(b) $+$, \times , $-$, \div , $=$ \times

~~(c) \times , $+$, \div , $-$, $=$~~

(d) \times , $+$, $-$, \div , $=$ \times

$$\underline{\underline{11 \times 15}} + 13 - 18 = 160$$

$$\underline{165} + 13 - 18$$

$$178 - 18 = \underline{\underline{160}}$$



Select the correct combination of mathematical signs to replace 'A' sequentially and balance the following equation.

$$16 \text{ A } 8 \text{ A } 6 \text{ A } 3 \text{ A } 4$$

(a) $\div, \times, (=), -$

(b) $\times, \div, +, =$

~~(c) $\div, (\times), (=), (\times)$~~

(d) $\times, =, -, \div$

Handwritten solution for option (a): $16 \div 8 \times 6 \div 3 \times 4$. The first part $16 \div 8$ is circled, and an arrow points from the result to the next operation.

Handwritten solution for option (d): $2 \times 6 = 3 \times 4$.



If $70 * 10 = -7$, $50 * 5 = -10$ and $10 * 5 = -2$ then find the value of $80 * 1 = ?$

(a) 45

(b) -25

(c) 20

(d) -80

80
↖ ↗
80

7
70 x 10 = -7

10
50 x 5 = -10 * 250

10 x 5 = -2



If $\underline{3\%2} = 50$, $\underline{2\%4} = 60$, then what is the value of $5\%4 = ?$

(a) 16

(b) 9

(c) 90

(d) 20

$$3\%2 = 50$$

$$2\%4 = 60$$

$$5\%4 = 90$$



If $\underline{9-8-7=876}$, $\underline{6-4-2=531}$ then $\underline{8-5-3=?}$

(a) 647

(b) 741

(c) 742

(d) 572

742

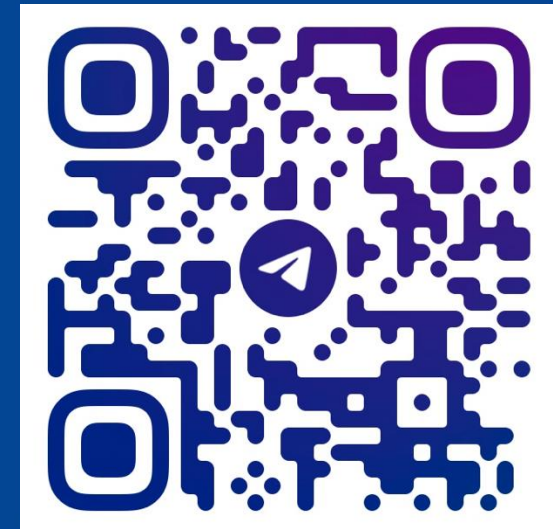


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