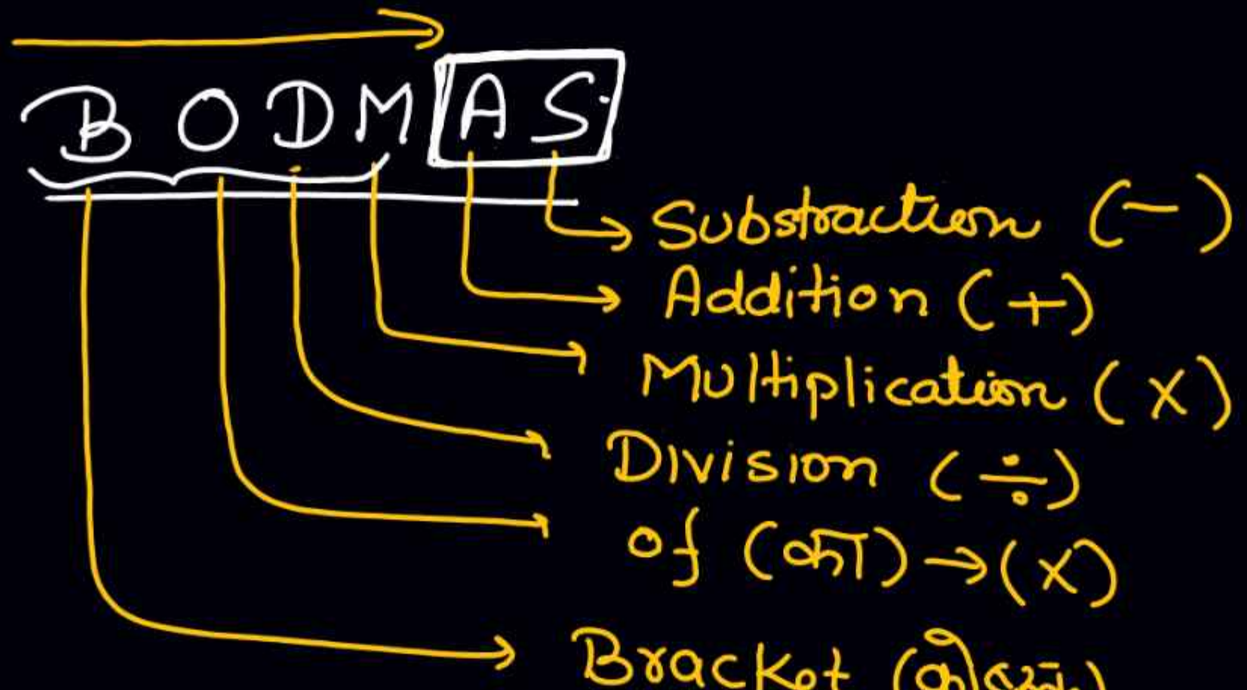
Foundation Batch

MATHS

Simplification
(सरलीकरण)

LIVE 29-11-2024 07:00PM


BODMAS
Substraction (−)
Addition (+)
Multiplication (X)
Division (÷)
of (का) → (X)
Bracket (कोष्ठक)
( ), [ ], { }

M B A

② ① ③

↳ $15 + 3 - 4 + 6 - 2$

$24 - 6 = 18$

↳ $10 \times 7 + 3 - 1 + 2 \times 3$

$70 + 3 - 1 + 6$

$79 - 1 = 78$

$$25 \times 10 \div 2 + 18 \div 9 + 7 - 3$$

$$25 \times 5 + 2 + 7 - 3$$

$$125 + 2 + 7 - 3$$

$$134 - 3$$

$$= 131$$

$100 \times 50 \div 2\cancel{8}5 \times 5 + 18 \div 2 \times 3 - 6$

2×5

$100 \times 50 \div 10 \times 5 + 18 \div 2 \times 3 - 6$

$100 \times 5 \times 5 + 9 \times 3 - 6$

$2500 + 27 - 6$

$2527 - 6$

$= 2521$

$75 \times 25 \div 5[10 \times 2 + 20 \div 2] + 15 \div 3 \times 2^{3}$

$(20 + 10)$

30

$75 \times 25 \div 5 \times 30 + 15 \div 3 \times 6$

$75 \times 5 \times 30 + 15 \div 3 \times 6$

$75 \times 150 + 5 \times 6$

$11250 + 30$

$= 11280$

$\frac{a}{b} \div \frac{c}{d}$

$= \frac{a}{b} \times \frac{d}{c}$

$\frac{\left(\frac{a}{b}\right)}{\left(\frac{c}{d}\right)} = \frac{a \times d}{b \times c}$

$\frac{\left(\frac{7}{12}\right)}{\left(\frac{24}{35}\right)}$

$\frac{7 \times 35}{12 \times 24} =$

$a \div b \div c$

$a \div \frac{b}{c}$

$\boxed{a \times \frac{c}{b}}$

$\rightarrow$

$a \div b \div c$

$\frac{a \times c}{b}$

$10 \div 3 \div 9$

$\frac{10 \times 9^{3}}{\cancel{3}} = 30$

Block method

$$100 \div 10 \times 2 + 70 \div 5 - 30 \div 5 \times 2 + 10 \text{ of } 3 \div 5$$

10×2	14	6×2	$30 \div 5$
20		12	6

$$20 + 14 - 12 + 6$$

$$40 - 12$$

$$= 28$$

TYPE-I

1. Simplify the following.

निम्नलिखित को सरल करें।

$$-2 \ominus [3 - \{3 - (4 - 5)\}]$$

(a) -3

(b) 1

(c) -1

(d) -2

$\{3+1\}$

4

$[3-4]$

$[-1]$

$-2+1 = -1$

(RRB Group D 07/10/2022)

2.Find the value of $(919 + 9.019 + 0.919 + 9.0019)$

$(919 + 9.019 + 0.919 + 9.0019)$ का मान ज्ञात कीजिए।

(a) 937.3999

(b) 973.9939

(c) 937.9399

(d) 973.9399

९·०१९
०·९१९
९·००१९

१८·९३९९

९१९ + १८·९३९९

९३७·९३९९

(RRB NTPC CBT-2, 14/06/2022)

3. Find the value of $(3 + 11) \times 4 \div (6 + 1) - 21$

$(3 + 11) \times 4 \div (6 + 1) - 21$ का मान ज्ञात कीजिए।

$14 \times 4 \div 7 - 21$

$2\ 14 \times \frac{4}{7} - 21$

$8 - 21$

-13

(a) 15
(b) -15
(c) -13
(d) 13

(RRB Group D 06/10/2022)

4. निम्नलिखित को सरल कीजिए।

Simplify the following.

$$[25 - 48 \div 6 + 12 \times 2] + 78 - [5 + 3 \text{ of } (25 - 2 \times 10)]$$

(a) 99
(b) 89
(c) 90
(d) 98

25 − 8 + 24
49 − 8
41

25 − 20
5

5 + 3 of 5
5 + 15
20

41 + 78 − 20
119 − 20
99

SSC CGL PRE 25-09-2024

5. Find the value of the following expression.

निम्न व्यंजक का मान ज्ञात करें।

$$3 \times 8 \div 9 \text{ of } 6 - 2 \div 3 \times (5 - 2) \times 2 + 18 \div 3 \text{ of } 3$$

(a) $-1\frac{5}{9}$

(b) $2\frac{12}{13}$

(c) $2\frac{1}{3}$

(d) -4

$3 \times 8 \div 54$

$3 \times \frac{8}{54} \quad \frac{4}{9}$

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

(4)

$18 \div 9$

(2)

$\frac{4}{9} - 4 + 2$

$\frac{4}{9} - 2 = \frac{-14}{9} = -1\frac{5}{9}$

SSC CGL (Tier-I) 20-08-2021

6. Find the simplified value.

सरलीकृत मान ज्ञात करें।

$\left(8.5-2\frac{1}{2}\right)$ of $16.5-\left[27.4-\left\{10\frac{1}{4}\text{ of }2.5-\left(1\frac{1}{2}-1\frac{1}{5}\right)\right\}\right]$

$\left\{\frac{1}{4}=0.25,\ \frac{1}{2}=0.5,\ \frac{1}{5}=0.2\right\}$

(a) 97.075

(b) 99.925

(c) 96.925

(d) 101.075

$2\frac{1}{2}=2.5$

$1\frac{1}{2}-1\frac{1}{5}=(1.5-1.2)=0.3$

$10\frac{1}{4}$ of $2.5=10.25$ of $\frac{25}{10}=25.625$

$27.400-25.325=2.075$

16.5 of $6=99$

$99-2.075=96.925$

SSC MTS 10/05/2023 (Shift II)

7. If $\frac{(88 \div 8 \times k - 3 \times 3)}{(6^2 - 7 \times 5 + k^2)} = 1$ then which of the following can be the value of k?

यदि $\frac{(88 \div 8 \times k - 3 \times 3)}{(6^2 - 7 \times 5 + k^2)} = 1$ है तो निम्नलिखित में से k का मान क्या हो सकता है?

A. 1,10

B. 4,7

C. 2,7

D. 3,10

SSC CGL pre 09-09-2024

$11 \times k - 9 = 36 - 35 + k^2$

$11k - 9 = 1 + k^2$

$k^2 - 11k + 10 = 0$

$k - 10 = 0$

$k = 10$

$k - 1 = 0$

$k = 1$

$k^2 - 10k - k + 10 = 0$

$k(k - 10) - 1(k - 10) = 0$

$(k - 10)(k - 1) = 0$

8. If $1\frac{1}{4} \times \left(5\frac{3}{4} \div \frac{2}{7} \text{ of } k\right) \div 2\frac{7}{8} - 3\frac{3}{4} = (17-4) \div 2 \text{ of } 2$ then what will be the value of तो $\frac{k+1}{k-1}$?

यदि $1\frac{1}{4} \times \left(5\frac{3}{4} \div \frac{2}{7} \text{ of } k\right) \div 2\frac{7}{8} - 3\frac{3}{4} = (17-4) \div 2 \text{ of } 2$ है तो $\frac{k+1}{k-1}$ का मान क्या होगा?

(a) $\frac{5}{2}$

(b) 9

(c) 7

(d) $\frac{11}{3}$

$\frac{23}{4} \div \frac{2k}{7}$

$\frac{5}{4} \times \left(\frac{23}{4} \times \frac{7}{2k}\right) \div \frac{23}{8} - \frac{15}{4}$

$\frac{5}{4} \times \frac{23}{4} \times \frac{7}{2k} \times \frac{8}{23} - \frac{15}{4}$

$\frac{35}{4k} - \frac{15}{4} = \frac{13}{4}$

$13 \div 4$

$\frac{13}{4}$

$\frac{35}{4k} = \frac{15}{4} + \frac{13}{4} = \frac{28}{4}$ 7

$28k = 35$

$k = \frac{35}{28}$ $\frac{5}{4}$

C & D Rule.

$\frac{k+1}{k-1} = \frac{5+4}{5-4} = \frac{9}{1}$

TYPE-II

9. Solve the following:

निम्नलिखित को हल करें:

$$\frac{70+5\times2\div10+15-10}{25\times6+2}=?$$

(a) $\frac{53}{114}$

(b) $\frac{19}{50}$

(c) $\frac{1}{2}$

(d) $\frac{5}{18}$

$70+5\times\frac{2}{10}+5$

$70+1+5$

$=76$

(e) 152

$\frac{N}{D}=\frac{76}{152}=\frac{1}{2}$

(RRB NTPC 06/04/52021)

10. What is the value of $\frac{46+\frac{3}{4}\text{ of }32-6}{37-\frac{3}{4}\text{ of }(34+6)}$?

$\frac{\left(46+\frac{3}{4}\text{ of }32-6\right)}{\left(37-\frac{3}{4}\text{ of }(34+6)\right)}$ का मान क्या है?

(a) $\frac{54}{7}$

(b) $\frac{44}{7}$

(c) $\frac{34}{7}$

(d) $\frac{64}{7}$

N: $46+24-6$, $46+18$, $= 64$

D: $37-\frac{3}{4}\times 40$, $37-30$, 7

$\frac{64}{7}$

SSC CPO SI 10/11/2022 (Shift II)

11. Find the value of $\dfrac{1\frac{1}{2}\div 3\frac{1}{4}+\frac{1}{2}\div\frac{13}{14}+\frac{1}{5}}{\frac{1}{5}\times 3\frac{1}{2}-\frac{1}{3}\div 1\frac{3}{4}\times 3\frac{1}{2}}$

$\left(\dfrac{1\frac{1}{2}\div 3\frac{1}{4}+\frac{1}{2}\div\frac{13}{14}+\frac{1}{5}}{\frac{1}{5}\times 3\frac{1}{2}-\frac{1}{3}\div 1\frac{3}{4}\times 3\frac{1}{2}}\right)$ कामान ज्ञात कीजिए।

(a) 38
(b) 33
(c) 36
(d) 40

SSC CPO 05/10/2023 (1st Shift)

$\frac{49}{81} + 4$

$\frac{49}{81} = \frac{324+49}{81}$

$\frac{373}{81}$

$+ 7 \times 7 \div 7 - 6 + 4$

$+ 7 - 6 + 4$

$+ 5 = 26$

N $(2+7\times7\div9$ का $9+6\div6\times2)$

D $(4\div4$ का $5+7\times7\div7-6+4)$

$\frac{N}{D} = \frac{373}{81} \div \frac{26}{5} = \frac{373 \times 5}{81 \times 26} = \frac{1865}{2106}$

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का मान क्या है

(a) $\frac{1734}{2407}$ (b) $\frac{1865}{2106}$

(c) $\frac{1857}{2507}$ (d) $\frac{1664}{2305}$

SSC CHSL 17/08/

13. एक छात्र को $\frac{\left(2\frac{1}{3}+2\frac{1}{2}-\frac{1}{6}\right)\div 2\frac{1}{3}\times 5\frac{2}{3}\div 1\frac{2}{3} \text{ का } 4\frac{1}{4}}{3\frac{1}{5}\div 4\frac{1}{2} \text{ का } 5\frac{1}{3}+5\frac{1}{3}\times\frac{3}{4}\div 2\frac{2}{3}}$ का मान ज्ञात करने के लिए कहा गया था। उसका उत्तर $\frac{6}{7}$ था। सही उत्तर और उसके उत्तर में क्या अंतर है ?

(a) $\frac{9}{14}$

(b) $\frac{5}{14}$

(c) $\frac{11}{49}$

(d) $\frac{6}{49}$

SSC CPO 13/12/2019 (Morning)