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1



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MISSION SSC GD CONSTABLE 2023



Maths

Day-1

FOUNDATION BATCH

Simplification

सरलीकरण

इस बार वही हमारी है

LIVE

02:00 PM





1

$$1260 \div 15 \div 7 = ?$$

$$\frac{1260}{15 \times 7} = 12$$

$$\begin{aligned} a \div b \\ a \times \frac{1}{b} \end{aligned}$$

Concept $\rightarrow a \div b \div c \div d$

$$a \times \frac{1}{b} \times \frac{1}{c} \times \frac{1}{d}$$

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

1) 12

2) 58

3) 122

4) 588



2 If $45 - [28 - \{37 - (15 - *)\}] = 58$, then * is equal to :

L R

$$\left\{ \begin{array}{l} 37 - 15 + x \\ - \{ 22 + x \} \end{array} \right\}$$

- + x + = +
- + x - = -
- x - = +
- x + = -

$$28 - 22 - x$$

$$45 - [15 - x]$$

$$45 - 28 + 37 - 15 + x$$

$$45 - 6 + x = 58$$

$$39 + 19 = 58$$

- (1) 20
- (2) 25
- (3) 19**
- (4) 18



3

Which of the following will come in place of both the question marks in the following equation?

$$\frac{128 \div 16 \times ? - 7 \times 2}{7^2 - 8 \times 6 + ?^2} = 1$$

निम्नलिखित में से कौन सा निम्नलिखित समीकरण में प्रश्न चिह्न दोनों के स्थान पर आएगा?

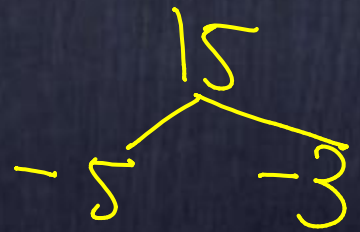
$$\frac{128 \div 16 \times ? - 7 \times 2}{7^2 - 8 \times 6 + ?^2} = 1$$

~~$$128 \div 16 \times ? - 7 \times 2$$~~

$$8 \times x - 14 = 1 + x^2$$

$$x^2 - 8x + 15 = 0$$

+5, +3



(1) 3

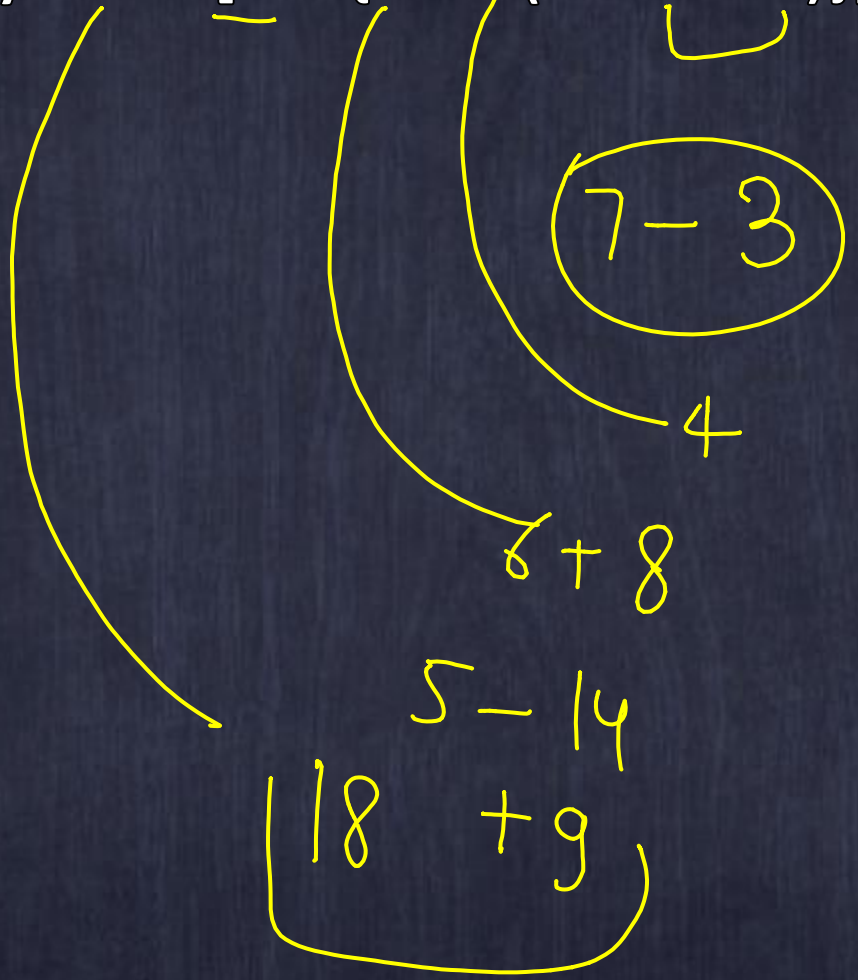
(2) 14

(3) 16

(4) 17



4 Simplify: $18 - [5 - \{6 + 2(7 - 8 - 5)\}]$.



- (1) 13
- (2) 15
- (3) 27**
- (4) 32



5

When simplified, the product $\left(1 - \frac{1}{2}\right) \left(1 - \frac{1}{3}\right) \left(1 - \frac{1}{4}\right) \dots \left(1 - \frac{1}{n}\right)$ gives.

जब सरलीकृत किया जाता है, तो $\left(1 - \frac{1}{2}\right) \left(1 - \frac{1}{3}\right) \left(1 - \frac{1}{4}\right) \dots \left(1 - \frac{1}{n}\right)$ देता है।

~~$\frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \dots \times \frac{n-1}{n}$~~

$\frac{1}{n}$

$(1) \frac{1}{n}$

(2) $\frac{2}{n}$

(3) $\frac{2(n-1)}{n}$

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



6 $\frac{3}{4} \left(1 + \frac{1}{3}\right) \left(1 + \frac{2}{3}\right) \left(1 - \frac{2}{5}\right) \left(1 + \frac{6}{7}\right) \left(1 - \frac{12}{13}\right) = ?$

~~$\frac{3}{4} \times \frac{4}{3} \times \frac{5}{3} \times \frac{3}{5} \times \frac{13}{7} \times \frac{1}{13}$~~

$\frac{1}{7}$

(1) $\frac{1}{5}$

(2) $\frac{1}{6}$

(3) $\frac{1}{7}$

(4) NOT



7

The value of $999\frac{995}{999} \times 999$ is:

मान ज्ञात करे

$$\left(999 \times 999 + 995 \right) \times \cancel{999}$$

$$\cancel{999}$$

$$\begin{array}{r} 1000 \quad \overline{1000} \\ 999 \times 999 \\ -1 \quad -1 \\ \hline 998 \quad 001 \\ \quad \quad 995 \\ \hline 998996 \end{array}$$

(1)

990809

(2)

998996

(3)



$$8 \left(999\frac{1}{7} + 999\frac{2}{7} + 999\frac{3}{7} + 999\frac{4}{7} + 999\frac{5}{7} + 999\frac{6}{7} \right)$$

is simplified to:

$$6 \times 999$$

$$6 \times (1000 - 1)$$

$$\begin{array}{r} 5994 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5994 \\ + 3 \\ \hline 5997 \end{array}$$

$$\frac{21}{7} = 3$$

~~(1) 2997~~

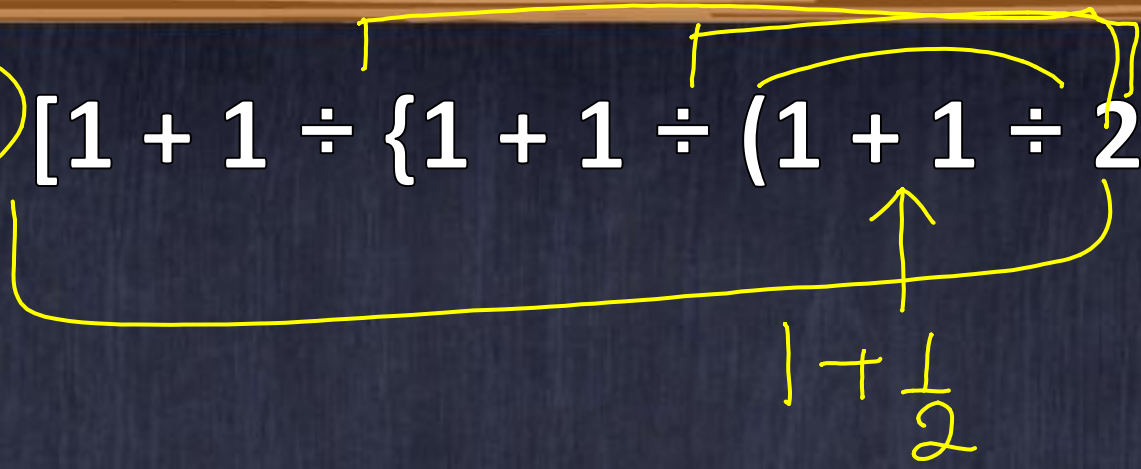
(2) 5979

(3) 5994

(4) 5997



9 The value of $1 \div [1 + 1 \div \{1 + 1 \div (1 + 1 \div 2)\}]$ is :



$\frac{5}{8}$

$1 + 1 \div \frac{3}{2}$
 $1 + 1 \times \frac{2}{3}$

$1 + 1 \div \frac{5}{3}$
 $1 + \frac{3}{5}$
 $= \frac{8}{5}$

- (1) $\frac{1}{2}$
- (2) $\frac{5}{8}$
- (3) 1
- (4) 2

10

$1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{7} + \frac{1}{14} + \frac{1}{28}$ is equal to :

$1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{7} + \frac{1}{14} + \frac{1}{28}$ के बराबर है

$$\frac{14 + 7 + 4 + 2 + 1}{28}$$

$1 + 1$

(1) 2

(2) 2.5

(3) 3

(4) 3.5



11

$$1 + \frac{3}{4} + 5\frac{1}{3} + 3\frac{2}{5} = ?$$

9

$$\frac{45 + 20 + 24}{60}$$

$$9 + 1 + \frac{29}{60}$$

$$10\frac{29}{60}$$

(1) $10\frac{29}{60}$

(2) $9\frac{29}{60}$

(3) $9\frac{2}{5}$

(4) $10\frac{39}{60}$



1

$$5 - \left[\frac{3}{4} + \left\{ 2\frac{1}{2} - \left(0.5 + \frac{1}{6} - \frac{1}{7} \right) \right\} \right]$$

2

H.W

(1) $1\frac{19}{84}$

(2) $2\frac{61}{84}$

(3) $2\frac{23}{84}$

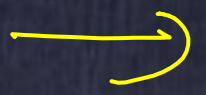
(4) $2\frac{47}{84}$



1

3

$$\frac{1}{2 + \frac{1}{2 + \frac{1}{2 - \frac{1}{2}}}}$$



Trick

H.W

(1) $\frac{3}{8}$

(2) $\frac{19}{8}$

(3) $\frac{8}{3}$

(4) $\frac{8}{19}$



1
4

~~$\frac{3}{5}$ of $\frac{4}{7}$ of $\frac{5}{9}$ of $\frac{21}{24}$ of 504 = ?~~

Handwritten annotations include a '3' above the fraction $\frac{21}{24}$, a '3' below the fraction $\frac{5}{9}$, a circled '84', and a checkmark.

- (1) 63
- (2) 69
- (3) 96
- (4) 84**



1
5

$$\frac{3}{8} \text{ of } 168 \times 15 \div 5 + ? = 549 \div 9 + 235$$

(1) 107

(2) 174

(3) 1

(4) 296



1
6

Find the value of * in the following :

$$1\frac{2}{3} \div \frac{2}{7} \times \frac{*}{7} = 1\frac{1}{4} \times \frac{2}{3} \div \frac{1}{6}$$

(1) 0.006

(2) $\frac{1}{6}$

(3) 0.6

(4) 6



1
7

$$9 - 1\frac{2}{9} \text{ of } 3\frac{3}{11} \div 5\frac{1}{7} \text{ of } \frac{7}{9} = ?$$

- (1) $\frac{7}{6}$
- (2) 9
- (3) 1
- (4) 8



18

Simplify : $\frac{\frac{1}{3} + \frac{3}{4} \left(\frac{2}{5} - \frac{1}{3} \right)}{1\frac{2}{3} \text{ of } \frac{3}{4} - \frac{1}{4} \text{ of } \frac{4}{5}}$

(1) $\frac{1}{63}$

(2) $\frac{23}{40}$

(3) $\frac{23}{55}$

(4) $\frac{23}{63}$



1
9

$$\frac{\frac{1}{2} \div \frac{1}{2}}{\frac{1}{2} + \frac{1}{2}} \text{ of } \frac{1}{2}$$

(1) 1

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

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

(4) 3



20

If $\frac{a}{b} = \frac{4}{3}$, then the value of $\frac{6a+4b}{6a-5b}$ is :

यदि $\frac{a}{b} = \frac{4}{3}$, तो $\frac{6a+4b}{6a-5b}$ का मान है:

(1) 4

(2) 1

(3) $1\frac{1}{7}$

(4) 2



2
1 If $\frac{a}{b} = \frac{4}{5}$, and $\frac{b}{c} = \frac{15}{16}$, then $\frac{c^2 - a^2}{c^2 + a^2}$ is :

(1) $\frac{1}{7}$

(2) $\frac{7}{25}$

(3) $\frac{3}{4}$

(4) None of these

22

If $2 = x + \frac{1}{1 + \frac{1}{3 + \frac{1}{4}}}$, then the value of x is:

यदि $2 = x + \frac{1}{1 + \frac{1}{3 + \frac{1}{4}}}$, तो x का मान है:

(1) 5

(2) $\frac{13}{17}$

(3) $\frac{18}{17}$

(4) $\frac{21}{17}$



23 $\frac{3}{1^2 \cdot 22} + \frac{5}{2^2 \cdot 32} + \frac{7}{3^2 \cdot 4^2} + \frac{9}{4^2 \cdot 5^2} + \frac{11}{5^2 \cdot 6^2} + \frac{13}{6^2 \cdot 7^2} + \dots + \frac{19}{9^2 \cdot 10^2}$

is :

(1) $\frac{1}{100}$

(2) $\frac{99}{100}$

(3) 1

(4) $\frac{101}{100}$



1. Which is the largest fraction among them $\frac{3}{8}$, $\frac{3}{5}$, $\frac{2}{3}$, $\frac{1}{2}$

a. $\frac{3}{8}$

b. $\frac{1}{2}$

c. $\frac{2}{3}$

d. $\frac{3}{5}$



Find the smallest fraction among the following fraction $\frac{5}{8}$, $\frac{21}{35}$, $\frac{9}{16}$, $\frac{6}{7}$

- A. $\frac{9}{16}$
- B. $\frac{6}{7}$
- C. $\frac{21}{35}$
- D. $\frac{5}{8}$



$$1\frac{1}{2} + 11\frac{1}{2} + 111\frac{1}{2} + 1111\frac{1}{2} + 11111\frac{1}{2}$$

a.

$$12347\frac{1}{2}$$

b. $12346\frac{1}{2}$

c. $12345\frac{1}{2}$

d. $12344\frac{1}{2}$



$$9\frac{1}{2} + 99\frac{1}{2} + 999\frac{1}{2} + 9999\frac{1}{2} + 99999\frac{1}{2}$$

- a. 111105.5
- b. 111107.5
- c. 111108.5
- d. 111112.5



$$3\frac{1}{3} + 33\frac{1}{3} + 333\frac{1}{3} + 3333\frac{1}{3} + 33333\frac{1}{3} + 333333\frac{1}{3}$$

- a. 370371
- b. 370381
- c. 370381
- d. 370331



$$\frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56} + \frac{1}{72}$$

- a. $\frac{7}{56}$
- b. $\frac{7}{18}$
- c. $\frac{1}{56}$
- d. $\frac{8}{19}$




$$\frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \dots + \frac{1}{132}$$

- a.* $\frac{1}{6}$
- b.* $\frac{3}{4}$
- c.* $\frac{2}{3}$
- d.* $\frac{1}{3}$



$$\left(1 + \frac{1}{2}\right) \left(1 + \frac{1}{3}\right) + \left(1 + \frac{1}{4}\right) \left(1 + \frac{1}{5}\right) \dots \dots \left(1 + \frac{1}{x}\right)$$

- a. $\frac{x+1}{2}$
- b. $\frac{x+1}{x+2}$
- c. $\frac{x+2}{2}$
- d. $\frac{x+2}{x+1}$


$$\left(1 - \frac{1}{2^2}\right) \left(1 - \frac{1}{3^2}\right) \left(1 - \frac{1}{4^2}\right) \left(1 - \frac{1}{5^2}\right) \dots \dots \left(1 - \frac{1}{90^2}\right)$$

- a. $90/17$
- b. $91/180$
- c. $17/18$
- d. $91/90$



Find the value of $\frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{2}}}}}$

- a) 8/13
- b) 6/13
- (c) 4/13
- (d) 2/13



Find the value of $2 + \frac{1}{2 + \frac{1}{2 + \frac{1}{2 + \frac{1}{3}}}}$

- a) 99/41
- b) 99/37
- c) 99/253
- d) 99/53