



MISSION SSC 2023



TARGET: CGL • CHSL • MTS • CPO

MATHS

SIMPLIFICATION

$$\left(1 - \frac{1}{2^2}\right) \left(1 - \frac{1}{3^2}\right) \left(1 - \frac{1}{4^2}\right) \left(1 - \frac{1}{5^2}\right) \left(1 - \frac{1}{20^2}\right) = ?$$



BY SHUBHAM MAHENDRAS

LIVE | 04:00 PM



UPCOMING ONLINE BATCHES

MARCH 2023

01 MARCH 2023

10:30 AM to 12:30 PM

SSC ONLINE LIVE CLASS

BILINGUAL

15 MARCH 2023

08:00 AM to 10:00 AM

BANK ONLINE LIVE CLASS

BILINGUAL

29 MARCH 2023

08:00 AM to 10:00 AM

SSC ONLINE LIVE CLASS

BILINGUAL

22 MARCH 2023

02:00 PM to 04:00 PM

BANK ONLINE LIVE CLASS

ENGLISH & BENGALI

05 APRIL 2023

05:30 PM to 07:30 PM

BANK ONLINE LIVE CLASS

BILINGUAL



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$$\left[1 + \frac{1}{7}\right] \left[1 + \frac{1}{8}\right] \left[1 + \frac{1}{9}\right] \left[1 + \frac{1}{10}\right] \dots\dots\dots \left[1 + \frac{1}{140}\right] = ?$$



- 1. 140/7
- 2. 8/141
- 3. 141/7
- 4. NOT



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$$\left[1 - \frac{1}{4}\right] \left[1 - \frac{1}{5}\right] \left[1 - \frac{1}{6}\right] \left[1 - \frac{1}{7}\right] \dots\dots\dots \left[1 - \frac{1}{47}\right] = ?$$



- 1. $47/3$
- 2. $46/4$
- 3. $4/47$
- 4. $3/47$



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$$\frac{1}{2} + \frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56} + \frac{1}{72} = ?$$



- 1. 7/6
- 2. 8/9
- 3. 2/7
- 4. NOT



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$$\frac{1}{2} + \frac{1}{3} - \frac{1}{4} - \frac{1}{2} - \frac{1}{3} + \frac{1}{4} + \frac{1}{2} + \frac{1}{3} - \dots + 46^{\text{th}} \text{ term} = ?$$



- 1. 1/8
- 2. 2/7
- 3. 5/13
- 4. 1/12



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$$\left[1 + \frac{1}{2}\right] \left[1 + \frac{1}{4}\right] \left[1 + \frac{1}{6}\right] \left[1 + \frac{1}{8}\right] \left[1 - \frac{1}{3}\right] \left[1 - \frac{1}{5}\right] \left[1 - \frac{1}{7}\right] = \left[1 + \frac{1}{x}\right],$$

Find $x = ?$



1.6

2.8

3.7

4.5



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$$\frac{1}{5 \times 6} + \frac{1}{6 \times 7} + \frac{1}{7 \times 8} + \dots + \frac{1}{24 \times 25} = ?$$



- 1.1.6
- 2.0.16
- 3.0.016
- 4.0.0016



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$$x = \frac{1}{12 \times 13} + \frac{1}{13 \times 14} + \frac{1}{14 \times 15} + \dots + \frac{1}{23 \times 24} = ?$$

$$y = \frac{1}{36 \times 37} + \frac{1}{37 \times 38} + \frac{1}{38 \times 39} + \dots + \frac{1}{71 \times 72} = ?$$

Find $\frac{x}{y} = ?$



1. 1/3
2. 1/24
3. 1/72
4. 3



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$$\frac{1}{15} + \frac{1}{35} + \frac{1}{63} + \frac{1}{99} + \frac{1}{143} = ?$$



- 1. 4/39
- 2. 5/39
- 3. 10/39
- 4. 7/39



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$$\frac{1}{4} + \frac{1}{28} + \frac{1}{70} + \frac{1}{130} + \frac{1}{208} = ?$$



- 1. $1/3$
- 2. $5/16$
- 3. $3/8$
- 4. $41/72$



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$$\left[1 - \frac{1}{n+1}\right] + \left[1 - \frac{2}{n+1}\right] + \left[1 - \frac{3}{n+1}\right] + \dots + \left[1 - \frac{n}{n+1}\right] = ?$$



1. n
2. n/2
3. (n + 1)
4. (n + 1) / 2



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$$\left[1 - \frac{1}{2^2}\right] \left[1 - \frac{1}{3^2}\right] \left[1 - \frac{1}{4^2}\right] \left[1 - \frac{1}{5^2}\right] \dots\dots\dots \left[1 - \frac{1}{20^2}\right] = ?$$



- 1. 2/5
- 2. 5/7
- 3. 21/40
- 4. 11/17



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$$1^2 - 2^2 + 3^2 - 4^2 + 5^2 - 6^2 + 7^2 - 8^2 + \dots + 99^2 - 100^2 = ?$$



1. 5050
2. -5050
3. 1010
4. NOT