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MATHS

आरंभ बैच

SIMPLIFICATION

PART 1

Concept + MCQ

लग जाओ 2024 के लिए

LIVE 08:00 AM





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$1^2 = 1$

$2^2 = 4$

$3^2 = 9$

$4^2 = 16$

$5^2 = 25$

$6^2 = 36$

$7^2 = 49$

$8^2 = 64$

$9^2 = 81$

$10^2 = 100$

$11^2 = 121$

$12^2 = 144$

$13^2 = 169$

$14^2 = 196$

$15^2 = 225$

$16^2 = 256$

$17^2 = 289$

$18^2 = 324$

$19^2 = 361$

$20^2 = 400$

$21^2 = 441$

$22^2 = 484$

$23^2 = 529$

$24^2 = 576$

$25^2 = 625$

$26^2 = 676$

$27^2 = 729$

$28^2 = 784$

$29^2 = 841$

$30^2 = 900$



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➤ Square of two digit and three digit number-

$$\begin{array}{r} (78)^2 = 6084 \\ \quad 4964 \\ \quad \underline{112} \quad + \\ \hline \underline{6084} \end{array}$$

$$\begin{array}{r} (56)^2 = \\ \quad 2536 \\ \quad \underline{60} \quad + \\ \hline \underline{3136} \\ = \end{array}$$

$$78^2$$

$$56^2$$



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➤ Multiplication

Base 100

➤ Question 1- 108×106

➤ Question 3- 96×94

$$108 \times 106 = 11448$$

$$\begin{array}{r} 108 \\ 106 \\ \hline 108+6=114 \quad | \quad 48 \\ \hline 11448 \end{array}$$

Diagram showing the base 100 method for 108×106 . Arrows indicate the addition of 8 to 106 and 6 to 108. A curved arrow shows the addition of 48 to 114.

$$\begin{array}{r} 96 \\ 94 \\ \hline 94-4=90 \quad | \quad 24 \\ \hline 9024 \end{array}$$

Diagram showing the base 100 method for 96×94 . Arrows indicate the subtraction of 4 from 96 and 4 from 94. A curved arrow shows the addition of 24 to 90.



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Question 1- $?^2 + 45^2 = 40^2 - 20^2 + 7191 - 5^3$

$$(45)^2 = 2025$$

\swarrow
 \searrow
 \times

5 25
20

$$a^2 - b^2 = (a+b)(a-b)$$

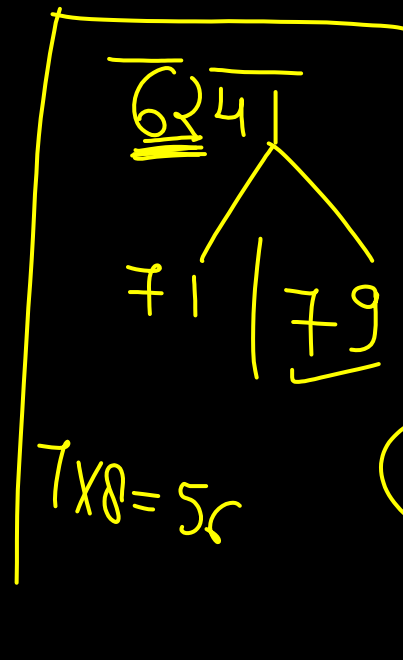
$$x^2 + 2025 = 1200 + 7191 - 125$$

$$x^2 = 7191 - 125 - 825$$

$$x^2 = 7191 - 950$$

$$x^2 = 6241$$

$$x = \sqrt{6241}$$



A. 81

B. 89

C. 79

D. 29

E. None of these



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$$3^5 = 243$$

$$3^3 = 27$$

$$(a^m)^n = a^{m \times n}$$

Question 2- $(243)^2 \div (27)^2 \times 36 \div 12 = 9^x$

$$[3^5]^2 \div [3^3]^2 \times 3 = [3^2]^x$$

$$\frac{3^{10}}{3^6} \times 3 = 3^{2x}$$

$$3^4 \times 3^1 = 3^{2x}$$

$$3^{2x} = 3^5$$

$$2x = 5$$

$$x = \underline{\underline{2.5}}$$

A. 1.5

B. 2.5

C. 3

D. 4.5

E. None of these



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$$\frac{\cancel{150}^3}{\cancel{100}} = \frac{3}{2}$$

$$24\% = \frac{24}{100} = \frac{6}{25}$$

Question 4- 150% of 460 + 24% of 650 = ?

460 का 150% + 650 का 24% = ?

$$\begin{aligned} &= \frac{3}{2} \times \overset{230}{\cancel{460}} + \frac{6}{25} \times \overset{26}{\cancel{650}} \\ &= 690 + 156 \\ &= \underline{\underline{846}} \end{aligned}$$

A. 731

B. 844

C. 866

D. 846

E. None of these



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Question 5- $\sqrt{7569} \div 12 \times 104 = (?)^2 + (23)^2$

Question 5- $\sqrt{7569} \div 12 \times 104 = (?)^2 + (23)^2$

$$\begin{array}{r} \sqrt{7569} \\ \hline 87 \quad | \quad 83 \\ \hline 29 \times 26 \\ (30-1) \times 26 \\ \hline 700 \\ -26 \\ \hline 754 \end{array}$$

$8^2 =$
 $\rightarrow 9^2 =$

$$\begin{array}{r} 29 \\ \cancel{87} \\ +2 \\ \hline 3 \end{array} \times \begin{array}{r} 26 \\ \cancel{104} \\ \hline 3 \end{array} = x^2 + 529$$

$$x^2 = 754 - 529$$

$$x^2 = 225$$

$$x = \sqrt{225}$$

$$x = 15$$

A. 10

B. 12

C. 16

D. 14

E. None of these



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Question 6- $7634 + 84 \times 21 - 16 \times 23 - 61^2 = ?$

$$61^2 = 30$$

$$\begin{array}{r} 3601 \\ 12 \\ \hline 3721 \end{array}$$

$$84 \times 21$$

$$= 4 \times 21 \times 21$$

$$= 4 \times 441$$

$$= 1764$$

$$X = 7634 + 1764 - 368 - 3721$$

$$= 9398 - 4009$$

$$= \underline{\underline{5309}}$$

~~A. 5309~~

B. 6220

C. 8220

D. 2220

E. None of these

$$\begin{array}{r} 3000 \\ 1000 \\ 89 \\ \hline 4089 \end{array}$$

$$\begin{array}{r} 8000 \\ 1300 \\ 98 \\ \hline 9398 \end{array}$$



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Question 7- $x^2 + 59^2 + 162 \times 11.11\% = 71^2 + 800 \times 47\% + 11^3$

$11.11\% = \frac{1}{9}$

$59^2 =$

$$\begin{array}{r} 2581 \\ 90+ \\ \hline 3481 \end{array}$$

$$x^2 + 3481 + \frac{1}{9} \times 162 = 5041 + 376 + 1331 \quad \text{A. 47}$$

B. 27

$$x^2 = \underline{5041} + \underline{376} + \underline{1331} - 3499$$

~~C. 57~~

$$= 6748 - 3499$$

D. 77

$$x^2 = 3249$$

E. None of these

$$x = \sqrt{3249}$$

57 53

$$x = \underline{\underline{57}}$$

$$\begin{array}{r} 5^2 \\ \hline 6^2 \end{array}$$

$$\begin{array}{r} 6000 \\ 6000 \\ \hline 12000 \\ 6748 \\ \hline 6748 \end{array}$$



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Question 8- $(16)^{0.75} \times \underline{(65536)}^{0.25} \div (256)^{-1} = 16^?$

$$16^2 = 256$$

$$16^4 = 4096$$

$$256 \times 16 = 4096$$

$$16^x = (16)^{6.75} \times (16)^4 \times 16^1$$

$$16^x = 16^{5.75}$$

$$x = \underline{\underline{5.75}}$$

A. 4

B. 4.75

C. 6

D. 6.75

~~E. None of these~~



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$$12.5\% = \frac{1}{8}$$

$$87.5\% = \frac{7}{8}$$

Question 9- $28^2 - 87.5\% \text{ of } 440 = ?$

$$= 784 - \frac{7}{8} \times 440$$

$$= 784 - 385$$

$$= 399$$

A. 199

B. 299

C. 499

D. 399

E. None of these



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Question 10- $4\frac{5}{7} \times 4\frac{2}{3} + ? = 25\% \text{ of } 158$

$$\frac{7 \times 4 + 5}{7}$$

$$25\% = \frac{1}{4}$$

$$\frac{33}{7} \times \frac{14}{3} + x = \frac{1}{4} \times 158$$

$$x = 39.5 - 22$$

$$x = \underline{\underline{17.5}}$$

- A. 11.5
- ~~B. 17.5~~
- C. 24.5
- D. 22
- E. None of these



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Question 11- 48% of ~~300~~ + 400% of 16 = ? % of 50

50% of ?

$$50\% = \frac{1}{2}$$

$$144 + 64 = x \times \frac{1}{2}$$

$$x = \underline{\underline{416}}$$

A. 208

~~B. 416~~

C. 212

D. 412

E. None of these



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Question 12- 185% of ~~500~~ - 46% of 1650 = 5x?

$$500\% \text{ of } 185$$

$$\begin{array}{r} 23 \quad 33 \\ \hline 50 \times 1650 \\ \hline = 759 \end{array}$$

$$925 - 759 = 5x$$

$$5x = 166$$

$$x = \underline{\underline{332}}$$

A. 1600

B. 1200

C. 1244

D. 1684

E. None of these



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Question 13- $6 \times \sqrt{3969} - 45\% \text{ of } 600 + 1872 \div 26 = ?$

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Home work

A. 210

B. 280

C. 120

D. 180

E. None of these



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Question 14 $-(13 \times 26 - 1196 \div 26) = ?^2 + 261 \div 87$

Home work

- A. 17
- B. 11
- C. 13
- D. 15
- E. None of these



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Question 15- $\sqrt{2704} \div (7332 \div 564) = ?^3 + 1732$

HW.

- A. 12
- B. -12
- C. 14
- D. -14
- E. None of these



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Question 16- 40% of 440 - 33.33% of 540 + ? = 100

प्रश्न 16- 440 का 40% - 540 का 33.33% + ? = 100

H.w

A. 100

B. 104

C. 96

D. 94

E. None of these



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Question 17- $[(4/5 \text{ of } 800 + 2/7 \text{ of } 126) - (45 \times 4 + 40 \times 5/8)] = ?$

प्रश्न 17- $[(800 \text{ का } 4/5 + 126 \text{ का } 2/7) - (45 \times 4 + 40 \times 5/8)] = ?$

HW.

A. 171

B. 271

C. 474

D. 471

E. None of these



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Question 18- 11.11% of 7200 + 23.23% of 9900 = ?

प्रश्न 18- 7200 का 11.11% + 9900 का 23.23% = ?

h.w.

A. 2100

B. 1100

C. 3100

D. 4100

E. None of these



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Question 19- 14.28% of 2100 + 42.84% of 700 + 23.23% of 18900 = ?

प्रश्न 19- 2100 का 14.28% + 700 का 42.84% + 18900 का 23.23% = ?

HW

$$14.28\% \text{ or } 14\frac{2}{7}\% = \frac{1}{7}$$

A. 4200

B. 5200

C. 4400

D. 6700

E. None of these

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