

25 → 1 → Missing number series.

TOPIC : NUMBER SERIES & SIMPLIFICATION

$$(Q) \quad 10\frac{1}{2} + 5\frac{1}{2} - 8\frac{8}{9} = x \div 7\frac{1}{5}$$

~~20~~

$$1 \div \frac{3}{4}$$

{ Arithmetic } $\Rightarrow 7 + \frac{1}{3} + \frac{1}{2} - \frac{8}{9} = x \div \frac{36}{5}$

[Perc app] $\Rightarrow 7 + \frac{(1 \times 6) + (1 \times 9) - (8 \times 2)}{18} = x \times \frac{5}{36}$

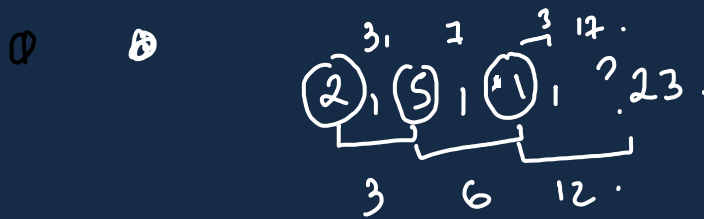
$$1 \times \frac{4}{3} = \frac{25}{18} \times \frac{2}{36} = 2$$

$$\Rightarrow 7 + \left(-\frac{1}{18}\right) = x \times \frac{5}{36}$$

$$\Rightarrow \frac{126-1}{18} = x \times \frac{5}{36} \quad \Rightarrow x = 4$$

$$\Rightarrow 7 - \frac{1}{18} = x \times \frac{5}{36}$$

$$\Rightarrow \frac{125}{18} = x \times \frac{5}{36}$$



प्रश्न चिन्हमा के हुन्छ पूरा गर्नुहोस्

1. 50, 55, 65, ?, 125

+5 +10 +20 +40

A)70 B)75 C)85 D)95

Substraction

Addition

Multiplication

1331

2) ²4, 9, 25, 49, ¹²¹?, 169 = 13²

A) 81 B) 90 C) 100 D) 121

2, 3, 5, 7, 11, prime numbers.

{ 2, 3, 5, 7, 11, 13, 17, 19, 23,

29, 31, 37, 41, 43, 47, 53, 59,

61, 67, 71, 73, 79, 83, 89, 97 }

$2^2 = 4 \rightarrow 1^{st} \text{ term.}$
 $3^2 = 9 \rightarrow 2^{nd}.$

$5^2 = 25 \rightarrow 3^{rd}$

$7^2 = 49 \rightarrow 4^{th}.$

$11^2 = 121.$

Nos whose factor is 1 and itself.



3) 10000 , 5000 , 15000, 7500, ?
 $\swarrow \times \frac{1}{2}$ $\swarrow \times 1$ $\swarrow \times \frac{1}{2}$ $\swarrow \times 3$

$$10000 \times \frac{1}{2} = 5000$$

A) 10000 B) 3725 C) 22500 D) none

$$\times \frac{1}{2}, \times 3, \times \frac{1}{2}, \times 3$$



4) $\sqrt{1728}$, $\sqrt{1331}$, $\sqrt{?}$, $\sqrt{729}$, $\sqrt{512}$

12^3 11^3 10^3 9^3 8^3

A) 1200 B) 900 C) 1000 D) 841

1 - 12

$10^3 = 1000$

5) 551, 501, ?, 401, 351

A) 451 B) 452 C) 460 D) 470

451
551, 501, ?, 401, 351.
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-50 -50 -50 -5



6) 28, 65, 126, ?

A) 212 B) 217 C) 218 D) 219



$$28 = \underline{3}^3 + \underline{1}$$

$$65 = \underline{4}^3 - \underline{1}$$

$$126 = \underline{5}^3 + \underline{1}$$

$$217 = \underline{6}^3 + \underline{1}$$





7) 230, 460, 1380, ?, 27600 →

A) 5020 B) 5520 C) 4480 D) none

2, 3, 5.

$$\begin{array}{r} 5520 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 1380 \\ \times 4 \\ \hline 5520 \end{array}$$

$$\begin{array}{r} 27600 \\ \times 5 \\ \hline 138000 \end{array}$$

8) 47, 53, 59, 61, ?, 71

A) 67 B) 73 C) 77 D) 66



prime to series.

47, 53, 59, 61, ?, 71.



prime no

67.



9) 45, 54, 63, 72, ? ⁸¹

A) 81 B) 90 C) 99 D) 108

✓
a

10) 15, 18, 16, 19, 17, ?

A) 23 B) 22 C) 18 D) 20 ✓

15, 18, 16, 19, 17, ^{20?}
 +3 -2 +3 -2 +3

11) 1.5, 3, 5, 7.5, ?

A) 10.5 B) 11 C) 12 D) 13
✓

1.5, 3, 5, 7.5, ? 10.5.

$\begin{array}{ccccccc}
 _ & _ & _ & _ & _ & _ & _ \\
 +1.5 & +2 & & 2.5 & +3 & & \\
 _ & _ & _ & _ & _ & _ & _ \\
 0.5 & 0.5 & & 0.5 & & &
 \end{array}$



12) 0, 2, 6, 12, 20, ?

A) 29 B) 30 C) 45 D) 55

✓

0, 2, 6, 12, 20, ? 30 .
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2 4 6 8 10

$$0 = 0^2 + 0$$

$$2 = 1^2 + 1$$

$$6 = 2^2 + 2$$

$$12 = 3^2 + 3$$

$$20 = 4^2 + 4$$

$$30 = 5^2 + 5$$

13) 23, 29, 31, 37, ? ⁽⁴¹⁾

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Prime no

14) 6400, 1600, 320, 53.33, ? $7 \cdot 618 \dots$ 6400, 1600, ?

$\frac{6400}{4} = 1600$ $\frac{1600}{5} = 320$ $\frac{320}{6} = 53.33$ $\frac{53.33}{7} = ?$

~~10~~

6 $\int$ 320 (53.33)
 $\begin{array}{r} 30 \\ - 20 \\ \hline 10 \\ - 2 \\ \hline 2 \end{array}$

$7 \overline{) 53.33}$
 $\begin{array}{r} 7 \ 618 \\ \hline 49 \\ \hline 43 \\ 42 \\ \hline 13 \\ 7 \\ \hline 60 \\ 56 \\ \hline 4 \end{array}$



15) 2, 4, 16, 256, ?

A) 65000 B) 65336 C) 65500 D) 65536

$$2, 2^2, 4^2, 16^2, 256^2, ?$$



16) 15, 30, 60, 120, ? 240

A) 250 B) 230 C) 240 D) none

17) 121, 169, 289, 361, ? s29 .

$$11^2, 13^2, 17^2, 19^2, 23^2 = 529$$



18) 21, 42, 63, 84, ? los.

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+21 +21 21 +21

19) 122, 146, 172, 200, ?

A) 238 B) 230 C) 232 D) none

122, 146, 172, 200, 230.

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24 26 28 30

20) $35, 70, 105, 140, ?$ 17s.

A) 175 B) 185 C) 150 D) 160

5 → Missing no series →

सरलीकरण / SIMPLIFICATION

$$21. \sqrt{1225} \times 12 - 6 = x^2$$

$$A) 2 B) 10 C) 6 D) 4 (e) \sqrt{4} 4.$$

$$\begin{array}{r} 35 \\ 35 \\ \hline 12 \ 25 \end{array}$$

$$\sqrt{1225} \times 12 - 6 = x^2$$

$$\Rightarrow 35 \times 12 - 6 = x^2$$

$$\Rightarrow 414 - 6 = x^2$$

$$\Rightarrow 414 = x^2$$

$$\Rightarrow \sqrt{414} = x$$

$$22. \sqrt{576} \div \sqrt{16} \times 6 = ?$$

$$\begin{aligned} &= \frac{\sqrt{576}}{\sqrt{16}} \times 6 \\ &= \frac{24}{4} \times 6 = 36 \end{aligned}$$



$$23. \quad x/\sqrt{144} = \sqrt{169}/4$$

$$x = 39$$

$$13^2 = 169$$

$$\frac{x}{\sqrt{144}} = \frac{\sqrt{169}}{4}$$

$$\frac{x}{12} = \frac{13}{4}$$

$$\Rightarrow x = \frac{13 \times 12}{4} = 39$$



$$24. 25 \times 125 \times 625 = (5)^x$$

$$\underline{25} \times \underline{25}$$

$$\Rightarrow \underline{5} \times \underline{5} \times \underline{5} \times \underline{5} \times \underline{5} \times \underline{5} \times \underline{5} \times \underline{5} \times \underline{5} \times \underline{5} = 5^n$$

$$\Rightarrow \underline{5^9} = \underline{5^n}$$

$$\underline{\underline{n=9}}$$

$$25. \frac{1}{4} \times (4856 \times 0.5) \times 12 = ?$$

$$\frac{1}{4} \times (4856 \times 0.5) \times 12$$

$$\frac{1}{4} \times 2428 \times 12$$

$$= 7284$$

B.

$$\begin{array}{r} 2428 \\ 4856 \times 1 \\ \hline \leftarrow 1 \end{array}$$

$$26. \quad \underline{326 \times 14} - 12 \times 88 + (49)^2 =$$

$$49 = 2401$$

$$326 \times 10 = 3260$$

$$+ 326 \times 4 = 1304$$

$$\underline{4564}$$

$$= \begin{array}{r} 4564 \\ - 1056 \\ \hline 3508 \end{array} - \cancel{12 \times 88} + 2401$$

$$\begin{array}{r} 3508 \\ - 1056 \\ \hline 2452 \end{array}$$

$$= 5909$$

$$\begin{array}{r} 96 \\ \times 11 \\ \hline 96 \\ + 960 \\ \hline 1056 \end{array}$$

$$27. (5^2 \times 7^2 + 12^2)^{1/2}$$

$$\sqrt{5^2 \times 7^2 + 12^2}$$

$$= \sqrt{25 \times 49 + 144}$$

$$= \sqrt{1225 + 144}$$

$$= \sqrt{1369} \rightarrow \begin{array}{r} 37 \\ 3 \times 4 = 12 \end{array}$$

$$37$$

$$49 \times 25$$

$$= 49 \times \frac{100}{4}$$

$$= \frac{1225}{4}$$

$$\begin{array}{r} 37 \\ 3 \times 7 \end{array}$$

$$28. \underline{(0.027)}^7 \times \underline{(0.09)}^5 = \underline{(0.3)}^x$$

$$= (0.3^3)^7 \times (0.3^2)^5 = (0.3)^n$$

$$(a^m)^n = a^{mn} \cdot \frac{0.3 \times 0.3}{0.09}$$

$$0.3 \times 0.3 \times 0.3 = 0.27$$

$$\Rightarrow (0.3)^{21} \times (0.3)^{10} = (0.3)^n$$

$$(0.3)^2 = 0.09$$

$$(0.3)^3 = 0.027$$

$$\Rightarrow (0.3)^{21+10} = (0.3)^n$$

$$n = 31$$

$$\Rightarrow (0.3)^{31} = (0.3)^n$$

$$(Q) \left[\sqrt{n + \sqrt{64}} - \sqrt{434 + \sqrt{747}} \right]$$

$$\sqrt{n+8} = 49.$$

$$2401.$$

$$\Rightarrow n+8 = (49)^2.$$

$$\Rightarrow n+8 = 2401$$

$$\Rightarrow n = 2401 - 8 = \underline{\underline{2393}}$$

$$\sqrt{324} = 18.$$

$$\sqrt{729} = 27.$$

$$= 49 \cdot \sqrt{961} = 31$$

$$\begin{array}{r} 31^x \\ 901 \\ \hline 6 \\ 961. \end{array} \quad \begin{array}{r} 95 \\ 31 \\ \hline 64 \end{array}$$