

Basic Intro and Series

Ques: What is the value of x in the sequence 20, 10, 10, 15, 30, 75, x ?

$$\text{Sol: } 20, 10, 10, 15, 30, 75, x \quad \begin{matrix} \nearrow & \nearrow & \nearrow & \nearrow & \nearrow & \nearrow \\ (x \cdot \frac{1}{2}) & (x) & (1.5) & (2) & (2.5) & (3) \end{matrix}$$

$$x = 75 \times 3 = 225 \rightarrow \boxed{x = 225} \text{ Ans}$$

Ques: If ZERO is written as 'CHUR', then how is player written?

Ans: Z E R O + T H R E E = P I E C E S
 $\downarrow \downarrow \downarrow \downarrow (+2)$ $\downarrow \downarrow \downarrow \downarrow$ $\downarrow \downarrow \downarrow \downarrow$
 C H U R CH I C KEN + THREE = S O D A - H U

Prime Numbers

2	19	47	79
3	23	53	83
5	29	59	89
7	31	61	97
11	37	67	91
13	41	71	93
17	43	73	97

Ques:- What is the upcoming number of the series
 2, 3, 5, 7, 11, 13, 17, 19.

Sol:- 23

Ques:- What is the missing number 'X' of the series
 7, X, 21, 31, 43.

Sol:- 7, X, 21, 31, 43
 6 8 10 12

$$X = 13$$

Ans.

Ques:- A simple mathematical operation in each number of sequence 14, 18, 20, 24, 30, 32, ... results in a sequence with respect to prime numbers. Which one of the following is the next number in the sequence?

Sol:- 2 3 5 7 11 13 17 19 23 29 31 37
 14 18 20 24 30 32 38

Ques:- What is the X in the sequence 132, 129, 124, 117, 106, 93, X?

Sol:- 132, 129, 124, 117, 106, 93, X
 3 5 7 11 13 17

$$X = 93 - 17 = 76$$

Ans.

List of square numbers

1	121	441
4	144	484
9	169	529
16	196	576
25	225	625
36	256	676
49	289	729
64	324	784
81	361	841
100	400	900

Ques: What is x in the sequence.

$$4, 196, 16, 144, 36, 100, 64, x$$

Sol: (4), 196, (16), 144, (36), 100, 64, x

$$\downarrow \quad \downarrow \quad \downarrow$$

$$(2)^2 \quad (13)^2 \quad (4)^2 \quad (12)^2 \quad (6)^2 \quad (10)^2 \quad (8)^2 \quad (9)^2$$

$$X = 64, \text{ Ans}$$

Ques: $4/12/95, 1/1/96, 29/1/96, 26/2/96, \dots, ?$

Sol:

$$4/12/95 + 28 = 1/1/96$$

$$1/1/96 + 28 = 29/1/96$$

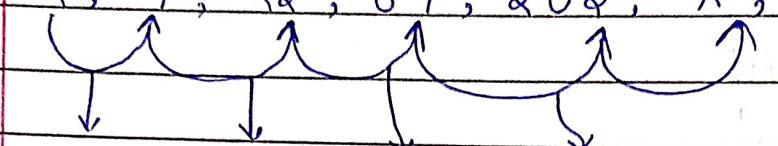
$$29/1/96 + 28 = 26/2/96$$

$$26/2/96 + 28 = 25/3/96$$

$\therefore 25/3/96$ is the next term. Ans //

Ques : What is the value of 'X' in the sequence
 $2, 7, 22, 67, 202, X, 1022$?

Sol : $2, 7, 22, 67, 202, X, 1022$



$$2 \times 3 + 1, 7 \times 3 + 1, 22 \times 3 + 1, 67 \times 3 + 1$$

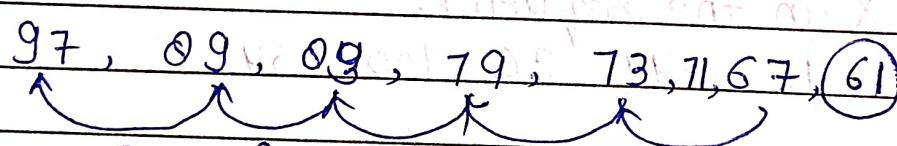
$$X = 202 \times 3 + 1$$

$$X = 607$$

Ans.

Ques : Find the next term of the sequence.
 $97, 89, 83, 79, 73, 67$.

Sol :



All are prime numbers.

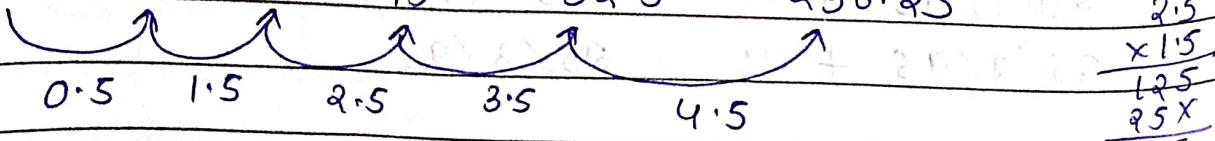
Ques : You are given two identical sequences in two rows:-

Seq 1 8 4 6 15 52.5 236.25

Seq 2 5 A B C D E

what is the entry in the place of C for the sequence-II?

Sol : 8 4 6 15 52.5 236.25



$$A = 5 \times 0.5 = 2.5 \quad B = 2.5 \times 1.5 = 3.75$$

$$C = 3.75 \times 2.5$$

$$C = 9.375 \quad \underline{\text{Ans.}}$$

3.75

$\times 2.5$

1875

750

X

9.375

Ques: Find the next term of the sequence.

5, 6, 14, 45, 184.

$$5 \times 1 + 1 = 6$$

$$6 \times 2 + 2 = 14$$

$$14 \times 3 + 3 = 45$$

$$45 \times 4 + 4 = 184$$

$$184 \times 5 + 5 = 920 + 5 = 925 \quad \underline{\text{Ans.}}$$

Ques: What is the value of x in the sequence

20, 10, 10, 15, 30, 75, x ?

Sol: 20, 10, 10, 15, 30, 75, x

$$X = 75 \times 3 = 225$$

$$X = 225 \quad \underline{\text{Ans.}}$$

Ques: Following is a matrix of certain entries. The entries follow a certain trend row-wise.

7B 10A 3C ?

3C 5B 9B 6A 4B 0I

10A 13C ?

Choose the missing entry (?) accordingly.

Sol.: 3B

List of cube numbers :-

1	1	1331
8	216	1728
27	343	2197
64	512	3312
125	729	4334
	1000	512

Ques: Following is a matrix of certain entries. The entries follow a certain trend row-wise.

7B 10B 3C

3C 9B 6A

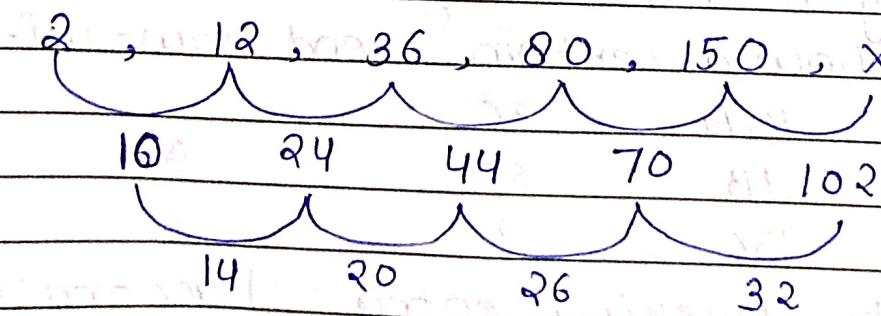
10A 13C

Choose the missing entry (?) accordingly.

Ans: 3B.

Ques: What is the value of X in the sequence.
2, 12, 36, 80, 150, X.

Sol:



$$X = 150 + 102$$

$X = 252$	<u>Ans.</u>
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Ans.

Ques: Replace the incorrect term by the correct term in the given sequence.

3, 2, 7, 13, 10, 21, 18, 31, 20, 43, 40.

Where odd terms and even terms follow the same pattern.

Sol.:

3 2 7 13 10 21 18 31 20 43 40

Odd terms:- 3, 7, 13, 21, 31, 43, 40

Even terms:- 2, 10, 18, 20, 40

$\underbrace{3}_{4} \underbrace{7}_{6} \underbrace{13}_{10} \underbrace{21}_{12} \times \underbrace{31}_{10} \quad 43 = 40$

$(2) \underbrace{4}_{2} \underbrace{10}_{6} \underbrace{18}_{10} \underbrace{20}_{12} \quad 40 \quad 88 = 8 + 2 \times 20$

O Ans.

$180 = 8 + 2 \times 88$

Ques: Terms of a given series follow a certain pattern, by observing that pattern find the term which will replace "x" in the given series.

8 4 6 15 x 236.25

Sol.: $8 \quad 4 \quad 6 \quad 15 \quad x \quad 236.25$

$0.5 \quad 1.5 \quad 2.5 \quad 3.5$

$$x = 15 \times 3.5$$

$$x = 52.5 \quad \text{Ans.}$$

Ques: Find the next term of given sequence.

2, 16, 112, 672, 3360, 13440, ...

Sol:

$$2, 16, 112, 672, 3360, 13440, \dots$$

8 7 6 5 4

$$X = (13440 \times 3)$$

$$X = 40320$$

Ques: Find the value of X in the sequence.

15, 33, 103, 417, 2091, X .

$$15 \times 2 + 3 = 33$$

$$33 \times 3 + 4 = 103$$

$$103 \times 4 + 5 = 417$$

$$417 \times 5 + 6 = 2091$$

$$X = 2091 \times 6 + 7 = 12546 + 7 = 12553$$

$$\boxed{X = 12553} \quad \underline{\text{Ans}}$$

Ques: What is the value of X in the series

12, 12, 15, 23, 38, X ?

Sol:

$$12, 12, 15, 23, 38, X$$

1 3 8 15
 2 5 7

$$1 = (1^2 - 1)$$

$$3 = (2^2 - 1)$$

$$8 = (3^2 - 1)$$

$$15 = (4^2 - 1)$$

$$X = 38 + 24$$

$$X = 62 \quad \underline{\text{Ans}}$$

Squares

9 16 25 36 49 64

Cubes

27 64 125 216

Ques: What is the missing term of the series. Topic:-
 56, 8, 48, 9.6, ?, 12.8.

Sol:

56	8	48	9.6	\rightarrow x
$(x \frac{1}{7})$	$x 6$	$(x \frac{1}{5})$	$x 4$	

$$X = 9.6 \times 4 = 38.4$$

$$X = 38.4 \quad | \quad \text{Ans.}$$

Ques: Consider the following matrix:-

4	7	9	1	2	6	?	5	10
12	42	72	6	2	30	0	9	15

Sol:

$4 \times 3 = 12$	$2 \times 1 = (2) = \{$	$12 + 1 + 7 + 1 = 21$	$\therefore X = 6$
$7 \times 6 = 42$	$6 \times 5 = 30 = \{$	$12 + 42 + 72 + 6 + 2 + 30 = 150$	$X = 0 \quad \quad \text{Ans.}$
$9 \times 8 = 72$	$1 \times 0 = 0 = \{$	$12 + 42 + 72 + 6 + 2 + 30 + 0 = 150$	$X = 12$

Ques: Consider the following matrix:-

47	61	75
58	35	63
45	54	?

What is the missing number in the matrix?

Sol:

In column 1 :- $47 + 58 + 45 = 150$

In column 2 :- $61 + 35 + 54 = 150$

In column 3 :- $75 + 63 + x = 150$

$138 + x = 150$

$x = 150 - 138 = 12$

$x = 12 \quad \text{Ans.}$

Ques: Consider the following sequence given below
 $5/1/11, 2/1/12, 30/1/12, 27/2/12, \dots$

What is the next term of the series?

Ans: $5/1/11 + 28 = 2/1/12$

$2/1/12 + 28 = 30/1/12$

$30/1/12 + 28 = 27/2/12$

$27/2/12 + 28 = 26/3/12$

$\therefore 26/3/12$ is the next term of the series.

Ques: Consider the following matrix:-

$15 + ? = 34$ from $99 + x = 169$

$1 + 15 = ?$

$4 + 7 = ?$

What is the missing number in the matrix?

Sol: $15 + 1 = 16 = (4)^2$

$34 + 15 = 49 = (7)^2$

$99 + x = 169 = (13)^2$

$x = 169 - 99$

$x = 70$ Ans.

Ques: Find the correct term of the given series in the place of "?"

16G, 31D, 60F, 116H, ?

Sol: $16 \times 2 - 1 = 31$

$31 \times 2 - 2 = 62 - 2 = 60$

$60 \times 2 - 3 = 120 - 3 = 117$

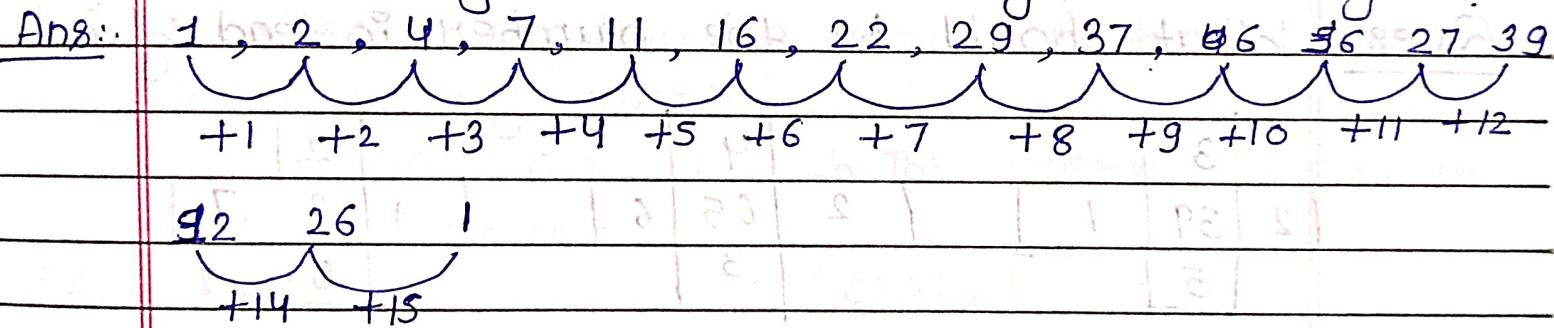
$116 \times 2 - 4 = 232 - 4 = 228$.

\therefore The next term is 228H. Ans/1.

Ques: Choose the group which is different from the others:-

- (A) 17, 37, 47, 97 (B) 31, 41, 53, 67
 (C) 71, 73, 79, 83 (D) 83, 89, 91, 97

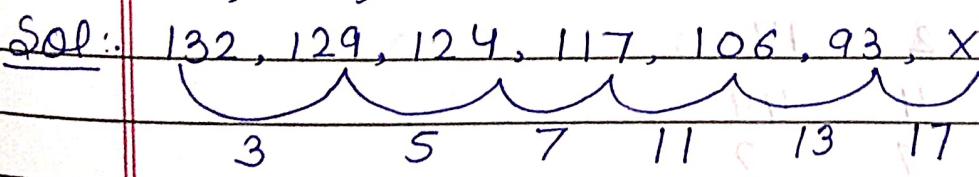
Ques: 40 children are standing in a circle and one of them (say child - I) has a ring. The ring is passed clockwise. Child - 1 passes on to child - 2, child - 2 passes on to child - 4, child - 4 passes on to child - 7 and so on. After how many such changes (including child - 1) will the ring be in the hands of child - 1 again?



Ans.:

Ques: What is X in the sequence

132, 129, 124, 117, 106, 93, X ?



$$X = 93 - 17$$

$$X = 76 \quad \underline{\text{Ans.}}$$

Ques: Find the next number of the sequence.

0, 1, 1, 2, 3, 5, 8, 13, 21, 34

Sol.: 55.

Ques: Find the missing number.

	3			4			2	
2	31	61	2	145	6	1	?	7
	5			3			5	

Ans.: 71. (Reasoning: 31 + 61 = 92, 61 + 2 = 63, 145 + 6 = 151, 1 + ? = 8)

Ques: What should be the number instead of ?

	3	8	7	4	9	11	12	
2	39	1		2	65	6	1	?
	5			3			5	

Ans.: $78 + 1 = 79$.

Ques: What should be the number instead of ?

3	4	2	14
6	5	4	44
5	2	7	?

Sol.: $(3+4) \times 2 = 14$

$(6+5) \times 4 = 44$

$(5+2) \times 7 = 49$. Ans.

Ques: Consider the following arrangement that has some missing letters abab b bcb c dcdced d. The missing letters that complete the arrangement are:

- (A) a,b,c,d (C) a,c,c,e
(B) a,b,d,e (D) b,c,d,e

Ans: abab a b b bcb c dcdced d d

abab a b b bcb d dcdced e d

abab a b c bcb c dcdced e d Ans.

abab b b c bcb d dcdced e d

Ques: Consider the following sequence that follows some arrangement:-

c a cccaa a a b c b. The letters that appear in the gaps are:-

- (A) abba (C) bbbb
(B) cbcb (D) cccc

Ans: c a cccaa b aa b bc a b

cc accaa b aa b bc b b ✓

c b accaa b aa b bc b b

c cacca a c aa c bc c b

Ques: A series is given with one word missing.
 choose the correct alternative from
 the given ones that will complete the series.
 Yes, Rain, Alive, Subtle, ?

Sol: Airport.

Ques: In the series. b a ba b abab ab
 Fill in the six blanks () using one of the
 following given 4 choices such that series
 follow a specific order.

- (A) bababa
- (B) baabba ✓ Ans
- (C) bbaabb
- (D) ababab.

Ques Following is a matrix of certain entries.

The entries follow a certain trend
 row-wise.

64 49 81

36 25 49

16 19 ?

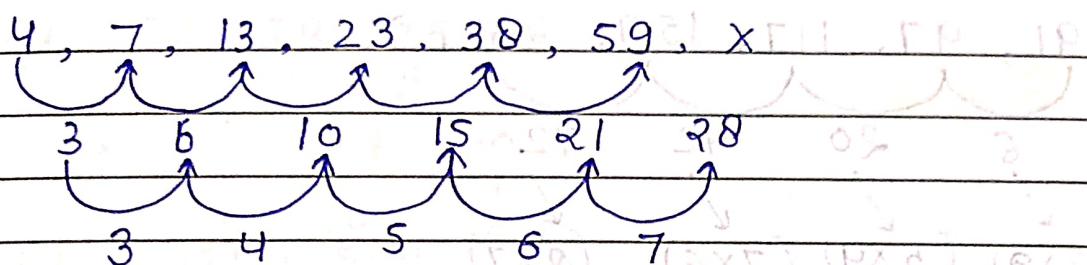
Choose the missing entry (?) accordingly.

Ans: 25.

Ques1: What is the value of x in the given series

$$4, 7, 13, 23, 38, 59, x?$$

Sol:



$$x = 59 + 28$$

$$x = 87$$

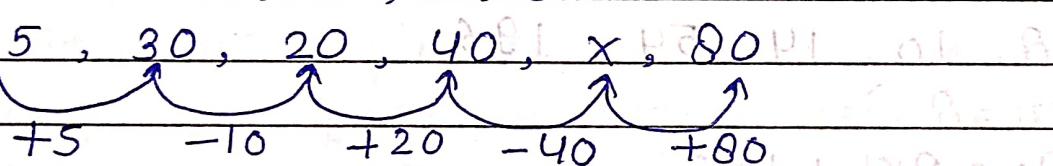
$$(4 \times 11) + 18.5 = x$$

$$148 = 44 + 18.5 = x$$

Ques2: Find the number which will replace "x" in

$$25, 30, 20, 40, x, 80$$

Sol:



$$\therefore x = 40 - 40 = 0$$

Ques3: What is the value of x in the given series

$$125, 152, 161, 169, 173, x, 175$$

Sol:

$$125, 152, 161, 169, 173, x, 175$$

$$27 \quad 9 \quad 8 \quad 8 \quad 4$$

$$(27+2 \times 8) \quad 9+8 \times 8 \quad 8+8 \times 8 \quad 5+8 \times 8 \quad 10 \times 8$$

$$(27+16) \quad 9+64 \quad 8+64 \quad 5+64 \quad 10 \times 8$$

$$43 \quad 73 \quad 72 \quad 69 \quad 80$$

$$26+8 \times 8 = x \quad 26+64 = x$$

Ques: What is the value of X in the series

91, 97, 117, 159, 231, X ?

Sol:

91, 97, 117, 159, 231, X

$$\begin{array}{ccccccc} & \swarrow & \searrow & \swarrow & \searrow & \swarrow & \searrow \\ 6 & & 20 & & 42 & & 72 \\ \downarrow & & \downarrow & & \downarrow & & \downarrow \\ (3 \times 2) & (5 \times 4) & (7 \times 6) & & (8 \times 7) & & \end{array}$$

$$X = 231 + (11 \times 10)$$

$$X = 231 + 110 = 341$$

$$X = 341. \text{ Ans.}$$

Ques: Find the next term in the given series

8, 10, 14, 54, 196, ?

Sol:

8, 10, 14, 54, 196

$$a_1 = 8$$

$$a_2 = 8 \times 1 + 1 \times 2$$

$$a_3 = 10 \times 2 - 2 \times 3$$

$$a_4 = 14 \times 3 + 3 \times 4$$

$$a_5 = 54 \times 4 - 4 \times 5$$

$$a_6 = 196 \times 5 + 5 \times 6$$

$$a_6 = 1010 \text{ Ans.}$$

Ques: What is the next term of the given series. 6, 7, 18, 63, 268, ?

Sol:

6, 7, 18, 63, 268

$$\begin{array}{ccccc} & & & & X \\ \swarrow & \searrow & \swarrow & \searrow & \\ 6 \times 1+1 & 7 \times 2+4 & 18 \times 3+9 & 63 \times 4+16 & 268 \times 5+(5)^2 \\ \downarrow & \downarrow & \downarrow & \downarrow & \\ (1)^2 & (2)^2 & (3)^2 & (4)^2 & \end{array}$$

$$X = 1340 + 25 \Rightarrow X = 1365 \text{ Ans.}$$

Ques: Find the next term of the given series:-

44, 52, 59, 73, 83, ?

Sol: 44, 52, 59, 73, 83, X.

$$\begin{array}{ccccccc} & \swarrow & \searrow & \swarrow & \searrow & \swarrow & \searrow \\ 8 & & 7 & & 14 & & 10 \\ \downarrow & & \downarrow & & \downarrow & & \downarrow \\ (4+4) & (5+2) & (5+9) & & (7+3) & & \end{array}$$

$$X = 94.$$

Ques: What is the next term of the series H W X E F,

U V G I H, S T I J, Q R K L, ?

Sol: OPMN

Ques: Consider the sequence a b e c b d a c e d that follows a certain pattern. Which of the following completes the sequence?

- (a) dbdab (b) cdebe (c) cdaeb (d) eacbd

Sol: a d b e b - d c b a d a c b e d

a d b e b d c b a d a c b e d

a d b e b d c b a d a c b e d (✓)

a e b e a c c b b d a c b d e d

Ques: Consider the sequence A B C - A A B - C B A - C C B -

A - C B A that follows a certain pattern.

Which of the following completes the sequence?

Sol: A B C C B A A B - C C B A A B C C B A