



NUMBER SERIES ✓



सरव्या
पुरवला

Series $\rightarrow$ 'A logic'

इसके आगे के पद ज्ञात किए जा सकते हैं

SERIES

(I) Basic Classification based :-

- Even, odd, prime number, consecutive Number etc.

Eg:→ 1, 3, 5, 7, 9,..... odd

→ 2, 4, 6, 8, 10, even

→ 7, 11, 13, 17, prime

→ 1, 2, 3, 4, 5, 6, 7, 8... क्रमागत
Consecutive✓

(II) Basic Operations:-

Square :- $x^2, x^2 \pm P$ वर्ग

Cube:- $x^3, x^3 \pm P$ घन

Mix series :- both square and cube वर्ग + घन

Increasing/ Decreasing order of the power of given number

Examples:-

→ 1, 9, 25, 49,

$1^2 \ 3^2 \ 5^2 \ 7^2$

1, 4, 9, 16, 25, 36, 49...

1, 16, 49, 100
 $1^2, 4^2, 7^2, 10^2$

→ 1, 27, 125, 343,

$1^3 \ 3^3 \ 5^3 \ 7^3$

$1^3 \ 2^3 \ 3^3 \ 4^3$
 1 8 27 64...

0, 26, 124, 342

4, 9, 16, 25, 36, 49
 ↓ ↓ ↓ ↓ ↓
 → 2, 7, 14, 23, 34,

$5 \ 7 \ 9 \ 11$

→ 126, 217, 344, 513,
 $5^3+1, 6^3+1, 7^3+1, 8^3+1$

→ 16, 125, 36, 343,
 $4^2, 5^3, 6^2, 7^3$

Alternate
 क्रमांतर

4^4
 16^2
 → 256, 128, 64, 32,
 $2^8, 2^7, 2^6, 2^5$

→ $5^1, 5^2, 5^3, 5^4$
 $5, 25, 125, 625, \dots$
 $\times 5, \times 5, \times 5$

(III) Addition/ Subtraction (अंतर)

→ Constant number

→ A.P (समानंतर श्रेणी) a, b, c, d

→ Prime number series

→ Square/ cube of the numbers

→ Consecutive Series

→ Odd/ even number series

Fix addition

Examples:-

L-0 → 37, 61, 85, 109, 133, 157...
 L-1 24 24 24 24 24

L-0, A.P
 +24

→ 41, 43, 46, 51, 58,

prime ← 2 3 5 7

L-0

Consecutive prime
 prime अंक

→ 63, 79, 104, 140, 189...
 16 25 36 49
 4² 5² 6² 7²

→ 74, 199, 415, 758,
 125 216 343 512
 5^3 6^3 7^3 8^3

→ 35, 36, 44, 53, 117,
 1 8 9 64 25
 1^2 2^3 3^2 4^3 5^2

→ 23, 24, 27, 36, 63,
 1 3 9 27 81
 $\times 3$ $\times 3$ $\times 3$ $\times 3$

(IV) Multiplication / division

Examples:

fix $\frac{500}{1000}$ ← $\rightarrow 63, 126, 252, 504, \dots, 1008$

$\times 2 \quad \times 2 \quad \times 2 \quad \times 2$

increasing $\frac{500}{1000}$ ← $\rightarrow 7, 7, 14, 42, 168, ? \dots, 840$

$\times 1 \quad \times 2 \quad \times 3 \quad \times 4 \quad \times 5$

$\rightarrow 12240, 2040, 408, 102, \dots, 34, 17, 17$

$\div 6 \quad \div 5 \quad \div 4 \quad \div 3 \quad \div 2 \quad \div 1$

$\times 6 \quad \times 5 \quad \times 4 \quad \times 3 \quad \times 2 \quad \times 1$

$\rightarrow 13, 78, 26, 156, 52, \dots$

$\times 6 \quad \div 3 \quad \times 6 \quad \div 3 \quad \times 6$

(V) Fabonacci series

a, b, c, d,

Logics $\rightarrow c = a \times b$ ✓
 $c = a + b$ ✓

** Example: $\rightarrow 1, 1, 2, 3, 5, 8, 13, 21, 34, \dots$ ✓

Diagram illustrating the Fibonacci sequence generation:

- 1 + 1 = 2
- 1 + 2 = 3
- 2 + 3 = 5
- 3 + 5 = 8
- 5 + 8 = 13

$\rightarrow 2, 3, 6, 18, 108, \dots$

Diagram illustrating the sequence generation:

- $2 \times 3 = 6$
- $3 \times 6 = 18$
- $6 \times 18 = 108$

पिछली तीन पर

$$* D = a + b + c$$

$$D = a \times b \times c$$

(VI) Dhadkan (धड़कन)

EC

There must be 2 logics. (कम से कम दो तर्क जरूर होंगे।)

(i) (+, -)

Example: $\rightarrow 7, 12, 9, 14, 11, 16, \dots$

+5 -3 +5 -3 +5



(ii) (+, $\times$)

$\rightarrow$ धड़कन

Example: $\rightarrow 2, 3, 6, 9, 36, 41, \dots$

+1 $\times$ 2 +3 $\times$ 4 +5 $\times$ 6



(iii) (+, ÷) ✓

Example: $\rightarrow 3, 4, 2, 5, \frac{5}{4}, \frac{25}{4}, \dots, \frac{25}{24} \dots$
 $+1 \div 2 +3 \div 4 +5 \div 6$

एडडन दो नई

(iv) (-, ×) एडडन

Example: $\rightarrow 7, 5, 15, 11, 55, \dots, 49 \dots$
 $-2 \times 3 -4 \times 5 -6 \times 7$

(v) (square, +)

Example: $\rightarrow 37, 40, 56, 61, 97, \dots, 104 \dots$
 $+3 +16 +5 +36 +7$

(v) (square, -)

Example: $\rightarrow 47, 46, 44, 35, 31, \dots, 6, 0$
 $-1, -2, -9, -4, -25, -6$
 $3^2, 2^2$
Square

The diagram illustrates a sequence of numbers: 47, 46, 44, 35, 31, ..., 6, 0. Below the sequence, the differences between consecutive terms are listed: -1, -2, -9, -4, -25, -6. The differences -1, -9, and -25 are enclosed in red boxes. Below these boxed differences are the squares of integers: 1^2, 3^2, and 2^2 respectively. Red lines connect the boxed differences to the word 'Square' written below them. The difference -4 is also connected to 'Square' by a red line. The difference -6 is not connected to 'Square'.

(VII) Mix Series

Examples:-

→ 43, 56, 45, 58, 47, ...
Handwritten annotations: Red arcs between 43 and 56 (+2), 56 and 45 (+2), 45 and 58 (+2), 58 and 47 (+2). The number 60 is written with a checkmark.



→ 76, 83, 94, 101, 112,
Handwritten annotations: Green arcs between 76 and 83 (+7), 83 and 94 (+11), 94 and 101 (+7), 101 and 112 (+11). The sequence of differences +7, +11, +7, +11 is underlined.

→ 7, 12, 22, 42, 82, ...
Handwritten annotations: Green arcs between 7 and 12 (+5), 12 and 22 (+10), 22 and 42 (+20), 42 and 82 (+40). The sequence of differences +5, +10, +20, +40 is underlined. Below the underlined sequence are the multipliers x2, x2, x2, x2. A circled 'G.P.' is written to the left.

$\rightarrow 8, 9, 20, 63, 256, \dots$
 $\times 1+1 \quad \times 2+2 \quad \times 3+3 \quad \times 4+4 \quad \times 5+5$
 1285 ✓
 1280

$\rightarrow 11, 13, 10, 15, 8, 19, \dots$
 $+2 \quad -3 \quad +5 \quad -7 \quad +11 \quad -13 \quad +17$
 23 ✓
 prime ←

$\rightarrow 13, 18, 8, 23, 3, \dots$
 $+5 \quad -10 \quad +15 \quad -20 \quad +25$
 28 ✓
 $-2, 33$


 உதாரண

→ 1, 8, 9, 64, 25, 216

→ 0, 7, 8, 63, 24, 215,
 $\begin{array}{ccccccc} \downarrow & & & \downarrow & & & \downarrow \\ 1^2 & & & 4^2 & & & 7^2 \\ & \downarrow & & & \downarrow & & \\ & 2^2 & & & 5^2 & & \\ & & \downarrow & & & \downarrow & \\ & & 3^2 & & & 6^2 & \end{array}$

→ 5, 10, 30, 60, 180,
 $\begin{array}{ccccc} \text{---} & \text{---} & \text{---} & \text{---} & \text{---} \\ \times 2 & \times 3 & \times 2 & \times 3 & \times 2 \end{array}$