

1.Number series

Types of Number Series:


1. **Arithmetic Series** – Numbers increase/decrease by a fixed amount.
Example: 2, 5, 8, 11, 14, ...
 2. **Geometric Series** – Each number is multiplied/divided by a fixed number.
Example: 3, 6, 12, 24, 48, ...
 3. **Square/Cube Series** – Based on squares or cubes of natural numbers.
Example: 1, 4, 9, 16, 25, ... (Squares)
 4. **Fibonacci Series** – Each number is the sum of the two previous numbers.
Example: 0, 1, 1, 2, 3, 5, 8, ...
 5. **Alternating Series** – The pattern alternates between positions.
Example: 2, 4, 3, 6, 4, 8, 5, 10, ...
 6. **Mixed Series** – Combination of two or more patterns.
Example: 2, 3, 6, 11, 18, 27, ...
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Examples with Solutions:

Example 1:

Find the next number: 5, 10, 20, 40, ?

Solution: Multiplying by 2 each time

 Next number = $40 \times 2 = 80$

Example 2:

Find the missing number: 3, 6, 11, 18, ?, 38

Solution:

+3, +5, +7, +9, ...

Next = $18 + 11 = 29$

Example 3:

Find the wrong number: 2, 4, 8, 16, 31, 64

Solution:

Series should be $\times 2$ each time

2, 4, 8, 16, **32**, 64

So, **wrong number is 31**

Practice Questions (Unsolved):

1. 7, 14, 28, 56, ?
 2. 2, 6, 12, 20, 30, ?
 3. 1, 4, 9, 16, ?, 36
 4. 100, 90, 81, 73, ?
 5. 8, 16, 15, 30, 29, ?
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