SERIES (FIND MISSING NUMBER P2)

PART1

1. Insert the missing number. 12, 25, 49, 99, 197, 395, (...)

Explanation :

Each number is twice the previous one with 1 added or subtracted alternatively.

2.Insert the missing number. 34, 7, 37, 14, 40, 28, 43, (...)

Explanation :

We have two series here

34, 37, 40, 43, ... (Increase by 3)

7, 14, 28, ... (Multiply by 2)

Hence, next term is $28 \times 2 = 56$

3. Find the missing number. 1, 4, 9, 16, 25, 36, 49, (....)

Explanation :

The series is $1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 7^2, \ldots$

Hence, next term = $8^2 = 64$

4. Insert the missing number. 2, 7, 10, 22, 18, 37, 26

Explanation :

There are two series here

2, 10, 18, 26, ... (Increase by 8)

7, 22, 37, ... (Increase by 15)

Hence, next term is 37+15 = 52

5. 4, 12, 48, 240, 1440, (...)

Explanation :

Go on multiplying the given numbers by 3, 4, 5, 6, 7

6. 2, 3, 6, 0, 10, -3, 14, (...)

Explanation :

There are two series

2, 6, 10, 14, ... (Adding 4)

3, 0, -3, ... (Subtracting 3)

Hence, next term is -3 - 3 = -6

7. 5, 10, 13, 26, 29, 58, 61, (....)

Explanation :

Numbers are alternatively multiplied by 2 and increased by 3

$5 \times 2 = 10 \mid 10 + 3 = 13 \mid 13 \times 2 = 26 \mid 26 + 3 = 29 \mid 29 \times 2 = 58$

$58 + 3 = 61 \mid 61 \times 2 = 122$

8. 1, 8, 27, 64, 125, 216, (....)

Explanation :

The pattern is $1^3, 2^3, 3^3, 4^3, 5^3, 6^3$, etc

Hence, next number is $7^3 = 343$

9. 4, 5, 7, 11, 19, (...)

Explanation :

$4 \mid 4 \times 2 - 3 = 5 \mid 5 \times 2 - 3 = 7 \mid 7 \times 2 - 3 = 11 \mid 11 \times 2 - 3 = 19 \mid 19 \times 2 - 3 = 35$

SERIES (FIND MISSING NUMBER P2)

10. 23, 29, 31, 37, 41, 43, (...)

Explanation :

All are prime numbers in their order, starting from 23

Hence, next number is 47

11. 8, 24, 12, 36, 18, 54, (....)

Explanation :

$8 \times 3 = 24 \mid 24 \div 2 = 12 \mid 12 \times 3 = 36 \mid 36 \div 2 = 18 \mid 18 \times 3 = 54 \mid 54 \div 2 = 27$

12. 7, 26, 63, 124, 215, 342, (....)

Explanation :

The series is $(2^3 - 1)$, $(3^3 - 1)$, $(4^3 - 1)$, $(5^3 - 1)$, $(6^3 - 1)$, $(7^3 - 1)$,

Hence, next number is $(8^3 - 1) = 511$

13. 2, -6, 18, -54, 162, (...)

Explanation :

$2 \times -3 = -6 \mid -6 \times -3 = 18 \mid 18 \times -3 = -54 \mid -54 \times -3 = 162 \mid 162 \times -3 = -486$

14. 2, 6, 12, 20, 30, 42, 56, (...)

Explanation :

The pattern is 1×2, 2×3, 3×4, 4×5, 5×6, 6×7, 7×8.

Hence, next number is 8×9 = 72

15. 8, 12, 18, 27, 40.5, (...)

Explanation :

$8 \mid (8\times3)\div 2 = 12 \mid (12\times3)\div 2 = 18 \mid (18\times3)\div 2 = 27 \mid (27\times3)\div 2 = 40.5$

$(40.5\times3)\div 2 = 60.75$

16. 196, 144, 100, 64, 36, ?

Explanation :

The patter is 14^2, 12^2, 10^2, 8^2, 6^2, ...

So next number is $4^2 = 16$

17. 2, 3, 5, 16, 231, ?

Explanation :

$2 \mid 3 \mid 3^2 - 2^2 = 5 \mid 5^2 - 3^2 = 16 \mid 16^2 - 5^2 = 231 \mid 231^2 - 16^2 = 53105$

18. 279936, 46656, 7776, 1296, 216, ?

Explanation :

Go on dividing by 6 to the next number

19. 220, 218, 214, 208, 200, 190, ?

Explanation :

$220 \mid 220 - 2 = 218 \mid 218 - 4 = 214 \mid 214 - 6 = 208 \mid 208 - 8 = 200 \mid 200 - 10 = 190$

$190 - 12 = 178 \mid$

20. 12, 38, 116, 350, 1052, ?

Explanation :

$12 \mid 12 \times 3 + 2 = 38 \mid 38 \times 3 + 2 = 116 \mid 116 \times 3 + 2 = 350$

$350 \times 3 + 2 = 1052 \mid 1052 \times 3 + 2 = 3158$

21. 9, 35, 91, 189, 341, ?

Explanation :

$1^3 + 2^3 = 9 \mid 2^3 + 3^3 = 35 \mid 3^3 + 4^3 = 91 \mid 4^3 + 5^3 = 189 \mid 5^3 + 6^3 = 341 \mid 6^3 + 7^3 = 559$

SERIES (FIND MISSING NUMBER P2)

22. 78, 64, 48, 30, 10, (...)

Explanation :

78 - 14 = 64 | 64 - 16 = 48 | 48 - 18 = 30 | 30 - 20 = 10 | 10 - 22 = -12

23. 16384, 8192, 2048, 256, 16, ?

Explanation :

Terms are continuously divided by 2,4,8,16, and so on

16384 | 16384 ÷ 2 = 8192 | 8192 ÷ 4 = 2048 | 2048 ÷ 8 = 256

256 ÷ 16 = 16 | 16 ÷ 32 = 0.5

24. 46080, 3840, 384, 48, 8, 2, ?

Explanation :

46080 ÷ 12 = 3840 | 3840 ÷ 10 = 384 | 384 ÷ 8 = 48 | 48 ÷ 6 = 8 | 8 ÷ 4 = 2 | 2 ÷ 2 = 1

25. 7, 21, 63, 189, 567, ?

Explanation :

Multiply a term with 3 to get the next term

26. 1, 0.5, 0.25, 0.125, 0.0625, ?

Explanation :

Divide by 2 to get the next term

27. Complete the series 20, 19, 17, ..., 10, 5

Explanation :

20 - 1 = 19 | 19 - 2 = 17 | 17 - 3 = 14 | 14 - 4 = 10 | 10 - 5 = 5

28. Which fraction will come next, $\frac{1}{2}, \frac{3}{4}, \frac{5}{8}, \frac{7}{16}, ?$

Explanation :

Numerators are getting increased by 2. i.e., numerators goes like 1,3,5,7,...

Hence, next numerator = 7+2 = 9

Denominators are getting multiplied by 2. i.e., denominators goes like 2,4,8,16,...

Hence, next denominator = 16×2 = 32

So, the next fraction is $\frac{9}{32}$

29. 4, 10, (?), 82, 244, 730

Explanation :

4 × 3 - 2 = 10 | 10 × 3 - 2 = 28 | 28 × 3 - 2 = 82 | 82 × 3 - 2 = 244 | 244 × 3 - 2 = 730

30. Complete the series 95, 115.5, 138, ..., 189

Explanation :

95 + 20.5 = 115.5 | 115.5 + 22.5 = 138 | 138 + 24.5 = 162.5 | 162.5 + 26.5 = 189