NUMBER SERIES

Addition series:

The series in which nest term is obtained by adding a specific number to the previous term is known as addition series.

Note: It is increasing order series and difference between consecutive term is equal.

Example 1. 3,6,9,12,15,…. 21

(a) 16 (b) 17 (c) 20 (d) 18

Solution. (d) The difference between the numbers is 3.

15 + 3 = 18

Difference Series:

note: It is Decreasing order series in which next term is obtained by subtracting a fixed/ specific number from the previous term.

Example 2. 55, 50, 45, 40,….30

(a) 33 (b) 34 (c) 35 (d) 36

Solution. (c) The difference between the numbers is -5.

40 – 5 = 35

Prime Number Series:

Example 3. 4, 9, 25, 49, 121, 169,…

(a) 324 (b) 289 (c) 225 (d) 196

Solution. (b) The given series is a consecutive square of prime number series. The next prime number is 289.

Example 4. 5, 7, 13, 23, …

(a) 25 (b) 27 (c) 29 (d) 41

Solution. (d) The difference between prime numbers is increasing. 7 is next prime to 5; 13 is second to next prime to 7; 23 is third to next to 13. Hence, next should be fourth to next prime to 23. Hence, required number is 41.

Example Find out the next term in the series 3,7,17,31,?

(a)43 (b) 47 (c) 53 (d)57

Multiplication Series:

Example 5. 4, 8, 16, 32, 64… 256

(a) 96 (b) 98 (c) 86 (d) 106

Solution. (a) The numbers are multiplied by 2 to get the next number.

64 × 2 = 128

Example 6. 5, 20, 80, 320, … 1280

(a) 5120 (b) 5220 (c) 4860 (d) 3642

Solution. (a) The numbers are multiplied by 4 to get the next number.

1280 × 4 = 5120

Division Series:

Example 7. 5040, 720, 120, 24, ….2,1

(a) 8 (b) 7 (c) 6 (d) 5

Solution. (c) 5040/7=720; 720/6=120; 120/5/=24; 24/4=6

Example 8. 16, 24, 36,… 81

(a) 52 (b) 54 (c) 56 (d) 58

Solution. (b) Previous number ×1.5 or (3/2) = Next number

n^2 Series

Example 9. 4, 16, 36, 64, …. 144

(a) 112 (b) 78 (c) 100 (d) 81

Solution. (c) The series is square of consecutive even numbers. 22, 42,62, 82

Next number is 102 = 100

Example 10. 1, 4, 9, 16, 25, 36, 49, … 81

(a) 100 (b) 121 (c) 64 (d) 144

Solution. (c) The series is 12, 22, 32, 42, 52,62, 72,….

The next number is 82 = 64

(n^2 + 1) Series

Example 11. 17, 26, 37, 50, 65,….101

(a) 82 (b) 75 (c) 78 (d) 90

Solution. (a) The series is 42 + 1, 52 +1, 62 + 1, 72 + 1, 82 + 1.

The next number is 92 + 1 = 82

Example 12. 101, 401, 901, 1601, 2501, …. 4901

(a) 2201 (b) 3301 (c) 4401 (d) 3601

Solution. (d) The series is 102 + 1, 202 +1, 302 + 1, 402 + 1, 502 + 1, etc.

The next number is 602 + 1 = 3601

(n^2 -1) Series

Example 13. 3, 8, 15, 24,…48

(a) 32 (b) 33 (c) 34 (d) 35

Solution. (d) The series is 22 – 1, 32 –1, 42 – 1,52 – 1. etc.

The next number is 62 – 1 =35

Example 14. 99, 80, 63,….35

(a) 48 (b) 84 (c) 46 (d) 64

Solution. (a) The series is 102 -1, 92 -1, 82 -1, etc.

The next number is 72 – 1 = 48

(n^2 + n) Series

Example 15. 2, 6, 12, 20, 30,…. 56

(a) 32 (b) 34 (c) 42 (d) 24

Solution. (c) The series is 12 + 1, 22 + 2, 32 + 3, 42 + 4, 52 + 5, etc.

The next number is 62 + 6 = 42

Example 16. 110, 132, 156, 182,….

(a) 212 (b) 201 (c) 211 (d) 210

Solution. (d) The series is 102 + 10, 112 + 11, 122 + 12, etc.

The next number is 142 + 14 = 210

(n^2 – n) Series

Example 17. 0, 2, 6, 12, 20,….42

(a) 25 (b) 30 (c) 32 (d) 40

Solution. (b) The series is 12 – 1 = 0, 22 – 2 = 2, 32 – 3 = 6, etc.

The next number is 62 – 6 = 30

Example 18. 90, 380, 870, 1560,…..

(a) 2405 (b) 2450 (c) 2400 (d) 2455

Solution. (b) The series is 102 – 10, 202 – 20, 302 – 30, etc.

The next number is 502 – 50 = 2450

n^3 Series

Example 19. 1, 8, 27, 64,…. 216

(a) 125 (b) 512 (c) 215 (d) 122

Solution. (a) The series is 13, 23, 33 , 43, etc.

The next number is 53 = 125

Example 20. 1000, 8000, 27000, 64000,….

(a) 21600 (b) 125000 (c) 152000 (d) 261000

Solution. (b) The series is 103 , 203, 303, 403, etc.

The next number is 503 = 125000

(n^3 + 1) Series

Example 21. 2, 9, 28, 65,…217

(a) 123 (b) 124 (c) 125 (d) 126

Solution. (d) The series is 13 +1, 23 + 1, 33 + 1, etc.

The next number is 53 + 1 = 126

Example 22. 1001, 8001, 27001, 64001, 125001,….

(a) 261001 (b) 216001 (c) 200116 (d) 210016

Solution. (b) The series is 103 + 1, 203 + 1, 303 + 1, etc.

The next number is 603 + 1 = 216001

(n^3 -1) Series

Example 23. 0, 7, 26, 63, 124,…

(a) 251 (b) 125 (c) 215 (d) 512

Solution. (c) The series is 13 – 1, 23 – 1, 33 – 1, etc.

The next number is 63 – 1 = 215

Example 24. 999, 7999, 26999, 63999,….

(a) 199924 (b) 124999 (c) 129994 (d) 999124

Solution. (b) The series is 103 – 1, 203 – 1, 303 – 1, etc.

The next number is 503 – 1 = 124999

(n^3 + n) Series

Example 25. 2, 10, 30, 68,….222

(a) 130 (b) 120 (c) 110 (d) 100

Solution. (a) The series is 13 + 1, 23 + 2, 33 + 3, etc.

The next number is 53 + 5 = 130

Example 26. 1010, 8020, 27030, 64040,….

(a) 125500 (b) 125050 (c) 100255 (d) 120055

Solution. (b) The series is 103 + 10 = 1010, 203 + 20 = 8020, etc.

The next number is 503 + 50 = 125050

(n^3 – n) Series

Example 27. 0, 6, 24, 60,…. 210

(a) 012 (b) 210 (c) 201 (d) 120

Solution. (d) The series is 13 – 1 = 0, 23 – 2 = 6, 33 – 3 = 24, etc.

The next number is 53 – 5 = 120

Example 28. 990, 7980, 26970, 63960,….

(a) 124500 (b) 124005 (c) 120045 (d) 124950

Solution. (d) The series is 103 – 10, 203 – 20, 303 – 30 etc.

The next number is 503 – 50 = 124950

NUMBER SERIES

Part 1 - Basic

Directions (1 - 20): What should come in place of question mark (?) in the following number series?

1. 13,14,30,93, 376,1885,?
   1) 10818 2) 10316 3) 11316 4) 11318 5) None of these

2. 4,6,9,13.5,20.25,30.375,?
   1) 40.25 2) 45.5625 3) 42.7525 4) 48.5625 5) None of these

3. 400,240,144 86.4 51.84 31.104 ?
   1) 2466 2) 17.2244 3) 16.8824 4) 18.6624 5) None of these

4. 9,4.5,4.5,6.75,13.5,33.75,?
   1) 101.25 2) 103.75 3) 99.75 4) 105.50 5) None of these

5. 705,728,774,843,935,1050, ?
   1) 1190 2) 1180 3) 1185 4) 1187 5) None of these

6. 1,4,27,256,3125, ?
   1) 117649 2) 46656 3) 705894 4) 16807 5) 823543

7. 30,46,78,126,190, 270,?
   1) 356 2) 366 3) 382 4) 398 5) 414

8. 380,465,557,656,762,875, ?
   1) 955 2) 1015 3) 97 4) 995 5) 1025

9. 1250,500,200,80, 32,12.8, ?
   1) 5.12 2) 6.4 3) 4.3 4) 6.02 5) 5.16

10. 23,26,24,27,25,28,?
    1) 27 2) 29 3) 26 4) 24 5) 21

11. 3,4,12, ?,576, 27648
    1) 64 2) 96 3) 36 4) 52 5) None of these

12. 4,12,60,420, ?,60060
    1) 4620 2) 3780 3) 4200 4) 5040 5) None of these

13. 6,349, 565, ?,754,781
    1) 629 2) 590 3) 601 4) 690 5) None of these

14. 1.5,4,20,129, ?,10505
    1) 1044 2) 1048 3) 1548 4) 1052 5) None of these

15. 89250,17850,7140,1428,571.2, ?
    1) 228.48 2) 126.12 3) 114.24 4) 246.48 5) None of these

16. 1548,516,129,43, ?
1) 11 2) 1075 3) 9.5 4) 12 5) None of these

17. 949,189.8, ?,2.776,11.388,6.8328
1) 48.24 2) 53.86 3) 74.26 4) 56.94 5) None of these

18. 121,144,190,259,? ,466
1) 351 2) 349 3) 374 4) 328 5) None of these

19. 14,43.5264, ? ,76188
1) 3168 2) 3176 3) 1587 4) 1590 5) None of these

20. 41 ,164,2624, ? ,6045696
1) 104244 2) 94644 3) 94464 4) 102444 5) None of these

Directions (21 - 40): In each of the following question a series of numbers is given. Only one number in the series is wrong. Find out that wrong number.

21. 15,16,20,28,45,70,106
1) 16 2) 20 3) 28 4) 45 5) 70

22. 2,8,26,90,372, 1876, 11232
1) 8 2) 26 3) 90 4) 372 5) 1876

23. 5 ,7,11, 19,36,67,131
1) 7 2) 11 3) 19 4) 36 5) 67

24. 8,9.5,11.5,14.5,17,20.5,24.5
1) 17 2) 14.5 3) 9.5 4) 11.5 5) 20.5

25. 11,12,22,47,111,236, 452
1) 12 2) 22 3) 47 4) 111 5) 236

26. 3,6,16,47.5,154.5,558.5,2257
1) 2257 2) 47.5 3) 154.5 4) 558.5 5) None of these

27. 898,906,933,996,1122,1338,1681
1) 906 2) 933 3) 112.2 4) 1338 5) None of these

28. 756,442,3089, 18532,92647, 370586
1) 442 2) 92647 3) 18532 4) 9264 5) None of these

29. 8000,3200,1280,512, 204.8, 84.92, 32.768
1) 512 2) 84.92 3) 204.8 4) 84.92 5) None of these

30. 4,55,576,4209,21280, 64083, 64204
1) 4209 2) 576 3) 21280 4) 64204 5) None of these

31.529, 841,961,1296,1681,1849,2209
1) 1296 2) 841 3) 961 4) 681 5) None of these

32.13,14,27,45,68,109, 177
1) 27 2) 109 3) 45 4) 68 5) None of these

33.14,22,34.5,35.01,87.25,135.875,209.125
1) 55.5 2) 34.5 3) 135.875 4) 87.25 5) None of these

34.274,301,426,769,1498,2824,5026
1) 301 2) 426 3) 769 4) 2824 5) None of these

35. 4,28,160,990,6970, 55832, 502560
1) 160 2) 990 3) 55832 4) 6970 5) None of these

36. 7.5,47.5,87.5,157.5,247.5,357.5,487.5
1) 357.5 2) 87.5 3) 157.5 4) 7.5 5) 47.5

37.13,16,21,27,39,52,69
1) 21 2) 39 3) 27 4) 52 5) 16

38. 1500,1581,1664,1749,1833,1925,2016
1) 1581 2) 1664 3) 1833 4) 1925 5) 1749

39. 66, 91,120,153,190,233,276
1) 120 2) 233 3) 153 4) 276 5) 190

40. 331,2197,3375,4914,6859,9261,12167
1) 4914 2) 6859 3) 9261 4) 2197 5) 12167

Answers:

1 - 3	2 - 2	3 - 4	4 - 1	5 - 5	6 - 2	7 - 2	8 - 4	9 - 1	10 - 3
11 - 5	12 - 1	13 - 4	14 - 2	15 - 3	16 - 2	17 - 4	18 - 1	19 - 5	20 - 3
21 - 3	22 - 5	23 - 4	24 - 2	25 - 2	26 – 4	27 - 5	28 – 3	29 – 2	30 - 1
31 – 1	32 – 3	33 – 5	34 – 4	35 – 4	36 – 5	37 – 3	38 – 3	39 – 2	40 - 1