35. ODD MAN OUT AND SERIES

EXERCISE 35

Directions : *Find the odd man out :*

1. 3, 5, 7, 12, 17, 19
   (*a*) 19 (*b*) 17 (*c*) 13 (*d*) 12
2. 10, 14, 16, 18, 21, 24, 26
   (*a*) 26 (*b*) 24 (*c*) 21 (*d*) 18
3. 3, 5, 9, 11, 14, 17, 21
   (*a*) 21 (*b*) 17 (*c*) 14 (*d*) 9
4. 1, 4, 9, 16, 23, 25, 36
   (*a*) 9 (*b*) 23 (*c*) 25 (*d*) 36
5. 6, 9, 15, 21, 24, 28, 30
   (*a*) 28 (*b*) 21 (*c*) 24 (*d*) 30
6. 41, 43, 47, 53, 61, 71, 73, 81
   (*a*) 61 (*b*) 71 (*c*) 73 (*d*) 81
7. 16, 25, 36, 72, 144, 196, 225
   (*a*) 36 (*b*) 72 (*c*) 196 (*d*) 225
8. 10, 25, 45, 54, 60, 75, 80
   (*a*) 10 (*b*) 45 (*c*) 54 (*d*) 75
9. 1, 4, 9, 16, 20, 36, 49
   (*a*) 1 (*b*) 9 (*c*) 20 (*d*) 49
10. 8, 27, 64, 100, 125, 216, 343
    (*a*) 27 (*b*) 100 (*c*) 125 (*d*) 343
11. 1, 5, 14, 30, 50, 55, 91
    (*a*) 5 (*b*) 50 (*c*) 55 (*d*) 91
12. 385, 462, 572, 396, 427, 671, 264
    (*a*) 385 (*b*) 427 (*c*) 671 (*d*) 264
13. 835, 734, 642, 751, 853, 981, 532
    (*a*) 751 (*b*) 853 (*c*) 981 (*d*) 532
14. 331, 482, 551, 263, 383, 242, 111
    (*a*) 263 (*b*) 383 (*c*) 242 (*d*) 111
15. 2, 5, 10, 17, 26, 37, 50, 64
    (*a*) 50 (*b*) 26 (*c*) 37 (*d*) 64
16. 19, 28, 39, 52, 67, 84, 102
    (*a*) 52 (*b*) 102 (*c*) 84 (*d*) 67
17. 253, 136, 352, 460, 324, 631, 244
    (*a*) 136 (*b*) 324 (*c*) 352 (*d*) 631
18. 2, 5, 10, 50, 500, 5000
    (*a*) 0 (*b*) 5 (*c*) 10 (*d*) 5000
19. 4, 5, 7, 10, 14, 18, 25, 32
    (*a*) 7 (*b*) 14 (*c*) 18 (*d*) 33

Directions : ***Find out the wrong number in each sequence :***

20. 22, 33, 66, 99, 121, 279, 594
(*a*) 33 (*b*) 121 (*c*) 279 (*d*) 594

21. 36, 54, 18, 27, 9,18.5, 4.5
(*a*) 4.5 (*b*) 18.5 (*c*) 54 (*d*) 18

22. 582, 605, 588, 611, 634, 617, 600
(*a*) 634 (*b*) 611 (*c*) 605 (*d*) 600

23. 46080, 3840, 384, 48, 24, 2, 1
(*a*) 1 (*b*) 2 (*c*) 24 (*d*) 384

24. 1, 8, 27, 64, 124, 216, 343
(*a*) 8 (*b*) 27 (*c*) 64 (*d*) 124

25. 5, 16, 6, 16, 7, 16, 9
(*a*) 9 (*b*) 7 (*c*) 6 (*d*) None of these

26. 6, 13, 18, 25, 30, 37, 40
(*a*) 25 (*b*) 30 (*c*) 37 (*d*) 40

27. 56, 72, 90, 110, 132, 150
(*a*) 72 (*b*) 110 (*c*) 132 (*d*) 150

28. 8, 13, 21, 32, 47, 63, 83
(*a*) 47 (*b*) 63 (*c*) 32 (*d*) 83

29. 25, 36, 49, 81, 121, 169, 225
(*a*) 36 (*b*) 49 (*c*) 121 (*d*) 169

30. 1, 2, 6, 15, 31, 56, 91
(*a*) 31 (*b*) 91 (*c*) 56 (*d*) 15

31. 52, 51, 48, 43, 34, 27, 16
(*a*) 27 (*b*) 34 (*c*) 43 (*d*) 48

32. 105, 85, 60, 30, 0, – 45, – 90
(*a*) 0 (*b*) 85 (*c*) – 45 (*d*) 60

33. 4, 6, 8, 9, 10, 11, 12
(*a*) 10 (*b*) 11 (*c*) 12 (*d*) 9

34. 125, 127, 130, 135, 142, 153, 165
(*a*) 130 (*b*) 142 (*c*) 153 (*d*) 165

35. 16, 36, 64, 81, 100, 144, 190
(*a*) 81 (*b*) 100 (*c*) 190 (*d*) 36

36. 125, 123, 120, 115, 108, 100, 84
(*a*) 123 (*b*) 115 (*c*) 100 (*d*) 84

37. 3, 10, 21, 36, 55, 70, 105
(*a*) 105 (*b*) 70 (*c*) 36 (*d*) 55

38. 4, 9, 19, 39, 79, 160, 319
(*a*) 319 (*b*) 160 (*c*) 79 (*d*) 39

39. 10, 14, 28, 32, 64, 68, 132
(*a*) 32 (*b*) 68 (*c*) 132 (*d*) 28

40. 8, 27, 125, 343, 1331
(*a*) 1331 (*b*) 343 (*c*) 125 (*d*) None of these

Directions : *Insert the missing number* :

41. 4, – 8, 16, – 32, 64, (.....)
(a) 128 (b) – 128 (c) 192 (d) – 192

42. 5, 10, 13, 26, 29, 58, 61, (.....)
(a) 122 (b) 64 (c) 125 (d) 128

43. 1, 4, 9, 16, 25, 36, 49, (.....)
(a) 54 (b) 56 (c) 64 (d) 81

44. 1, 8, 27, 64, 125, 216, (.....)
(a) 354 (b) 343 (c) 392 (d) 245

45. 11, 13, 17, 19, 23, 29, 31, 37, 41, (.....)
(a) 43 (b) 47 (c) 53 (d) 51

46. 16, 33, 65, 131, 261, (.....)
(a) 523 (b) 521 (c) 613 (d) 721

47. 3, 7, 6, 5, 9, 3, 12, 1, 15, (.....)
(a) 18 (b) 13 (c) – 1 (d) 3

48. 15, 31, 63, 127, 255, (.....)
(a) 513 (b) 511 (c) 517 (d) 523

49. 2, 6, 12, 20, 30, 42, 56, (.....)
(a) 60 (b) 64 (c) 72 (d) 70

50. 8, 24, 12, 36, 18, 54, (.....)
(a) 27 (b) 108 (c) 68 (d) 72

51. 165, 195, 255,285, 345, (.....)
(a) 375 (b) 420 (c) 435 (d) 390

52. 7, 26, 63, 124, 215, 342, (.....)
(a) 481 (b) 511 (c) 391 (d) 421

53. 2, 4, 12, 48, 240, (.....)
(a) 960 (b) 1440 (c) 1080 (d) 1920

54. 8, 7, 11, 12, 14, 17, 17, 22, (.....)
(a) 27 (b) 20 (c) 22 (d) 24

55. 10, 5, 13, 10, 16, 20, 19, (.....)
(a) 22 (b) 40 (c) 38 (d) 23

56. 1, 2, 4, 8, 16, 32, 64, (.....), 256
(a) 148 (b) 128 (c) 154 (d) 164

57. 71, 76, 69, 74, 67, 72, (.....)
(a) 77 (b) 65 (c) 80 (d) 76

58. 9, 12, 11, 14, 13, (.....), 15
(a) 12 (b) 16 (c) 10 (d) 17

59. Complete the series : 2, 5, 9, 19, 37, ...
(a) 76 (b) 74 (c) 75 (d) None of these

60. Find the wrong number in the series : 3, 8, 15, 24, 34, 48, 63
(a) 15 (b) 24 (c) 34 (d) 48 (e) 63

61. Find the wrong number in the series : 2, 9, 28, 65, 126, 216, 344
(a) 2 (b) 28 (c) 65 (d) 126 (e) 216

62. Find out the wrong number in the series : 5, 15, 30, 135, 405, 1215, 3645
(a) 3645 (b) 1215 (c) 405 (d) 30 (e) 15

63. Find out the wrong number in the series : 125, 106, 88, 76, 65, 58, 53
(a) 125 (b) 106 (c) 88 (d) 76 (e) 65

Directions : ***Find out the wrong number in the series :***

64. 190, 166, 145, 128, 112, 100, 91
(a) 100 (b) 166 (c) 145 (d) 128 (e) 112

65. 1, 1, 2, 6, 24, 96, 720
(a) 720 (b) 96 (c) 24 (d) 6 (e) 2

66. 40960, 10240, 2560, 640, 200, 40, 10
(a) 640 (b) 40 (c) 200 (d) 2560 (e) 10240

67. 64, 71, 80, 91, 104, 119, 135, 155
(a) 71 (b) 80 (c) 104 (d) 119 (e) 135

68. 7, 8, 18, 57, 228, 1165, 6996
(a) 8 (b) 18 (c) 57 (d) 228 (e) 1165

69. 3, 7, 15, 27, 63, 127, 255
(a) 7 (b) 15 (c) 27 (d) 63 (e) 127

70. 19, 26, 33, 46, 59, 74, 91
(a) 26 (b) 33 (c) 46 (d) 59 (e) 74

71. 2880, 480, 92, 24, 8, 4, 4
(a) 480 (b) 92 (c) 24 (d) 8 (e) 4

72. 445, 221, 109, 46, 25, 11, 4
(a) 221 (b) 109 (c) 46 (d) 25 (e) 11

73. 3, 7, 15, 39, 63, 127, 255, 511
(a) 7 (b) 15 (c) 39 (d) 63 (e) 127

74. 1, 3, 10, 21, 64, 129, 356, 777
(a) 10 (b) 21 (c) 64 (d) 129 (e) 356

75. 196, 169, 144, 121, 100, 80, 64
(a) 169 (b) 144 (c) 121 (d) 100 (e) 80

76. 6, 12, 48, 100, 384, 768, 3072
(a) 768 (b) 384 (c) 100 (d) 48 (e) 12

77. 10, 26, 74, 218, 654, 1946, 5834
(a) 26 (b) 74 (c) 218 (d) 654 (e) 1946

78. 15, 16, 34, 105, 424, 2124, 12576
(a) 16 (b) 34 (c) 105 (d) 424 (e) 2124

79. 2807, 1400, 697, 347, 171, 84, 41, 20
(a) 697 (b) 347 (c) 171 (d) 84 (e) 41

80. 32, 36, 41, 61, 86, 122, 171, 235
(a) 41 (b) 61 (c) 86 (d) 122 (e) 171

81. 3, 4, 9, 22.5, 67.5, 202.5, 810
(a) 4 (b) 9 (c) 22.5 (d) 67.5 (e) 202.5

82. 1, 2, 8, 33, 148, 760, 4626
(a) 2 (b) 8 (c) 33 (d) 148 (e) 760

83. 3, 8, 18, 46, 100, 210, 432
(a) 8 (b) 18 (c) 46 (d) 100 (e) 210

84. 789, 645, 545, 481, 440, 429, 425
(a) 645 (b) 545 (c) 481 (d) 440 (e) 429

85. 1060, 510, 242, 106, 46, 16, 3
(a) 510 (b) 242 (c) 106 (d) 46 (e) 16

86. 5, 8, 20, 42, 124, 246, 736
(a) 8 (b) 20 (c) 42 (d) 124 (e) 246

87. 2, 3, 6, 15, 52.5, 157.5, 630
(a) 3 (b) 6 (c) 15 (d) 52.5 (e) 157.5

88. 888, 440, 216, 104, 48, 22, 6
(a) 440 (b) 216 (c) 104 (d) 48 (e) 22

89. 4, 5, 15, 49, 201, 1011, 6073
(a) 5 (b) 15 (c) 49 (d) 201 (e) 1011

ANSWERS

1. (d)	**2.** (c)	**3.** (c)	**4.** (b)	**5.** (a)	**6.** (d)	**7.** (b)	**8.** (c)	**9.** (c)
10. (b)	**11.** (b)	**12.** (b)	**13.** (a)	**14.** (b)	**15.** (d)	**16.** (b)	**17.** (b)	**18.** (d)
19. (c)	**20.** (c)	**21.** (b)	**22.** (a)	**23.** (c)	**24.** (d)	**25.** (a)	**26.** (d)	**27.** (d)
28. (a)	**29.** (a)	**30.** (b)	**31.** (b)	**32.** (a)	**33.** (b)	**34.** (d)	**35.** (c)	**36.** (c)
37. (b)	**38.** (b)	**39.** (c)	**40.** (d)	**41.** (b)	**42.** (a)	**43.** (c)	**44.** (b)	**45.** (a)
46. (a)	**47.** (c)	**48.** (b)	**49.** (c)	**50.** (a)	**51.** (c)	**52.** (b)	**53.** (b)	**54.** (b)
55. (b)	**56.** (b)	**57.** (b)	**58.** (b)	**59.** (c)	**60.** (c)	**61.** (e)	**62.** (d)	**63.** (c)
64. (d)	**65.** (b)	**66.** (c)	**67.** (e)	**68.** (d)	**69.** (c)	**70.** (b)	**71.** (b)	**72.** (c)
73. (c)	**74.** (e)	**75.** (e)	**76.** (c)	**77.** (d)	**78.** (e)	**79.** (b)	**80.** (a)	**81.** (a)
82. (e)	**83.** (b)	**84.** (d)	**85.** (c)	**86.** (b)	**87.** (d)	**88.** (e)	**89.** (a)	

SOLUTIONS

1. Each of the numbers except 12, is a prime number.
2. Each of the numbers except 21, is an even number.
3. Each of the numbers except 14, is an odd number.
4. Each of the given numbers except 23, is a perfect square.
5. Each of the numbers except 28, is a multiple of 3.
6. Each of the numbers except 81, is a prime number.
7. Each of the numbers except 72, is a perfect square.
8. Each of the numbers except 54, is a multiple of 5.
9. The pattern is $1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 7^2$. But, instead of 5^2, it is 20, which is to be turned out.
10. The pattern is $2^3, 3^3, 4^3, 5^3, 6^3, 7^3$. But, 100 is not a perfect cube.
11. The pattern is 1^2, $1^2 + 2^2$, $1^2 + 2^2 + 3^2$, $1^2 + 2^2 + 3^2 + 4^2$, $1^2 + 2^2 + 3^2 + 4^2 + 5^2$, $1^2 + 2^2 + 3^2 + 4^2 + 5^2 + 6^2$. But, 50 is not of this pattern.
12. In each number except 427, the middle digit is the sum of the other two.
13. In each number except 751, the difference of third and first digit is the middle one.
14. In each number except 383, the product of first and third digits is the middle one.
15. The pattern is $x^2 + 1$, where $x = 1, 2, 3, 4, 5, 6, 7, 8$ etc. But, 64 is out of pattern.
16. The pattern is $x^2 + 3$, where $x = 4, 5, 6, 7, 8, 9$ etc. But, 102 is out of pattern.
17. Sum of the digits in each number, except 324 is 10.
18. Pattern is 1st × 2nd = 3rd; 2nd × 3rd = 4th; 3rd × 4th = 5th.
But, 4th × 5th = 50 × 500 = 25000 ≠ 5000 = 6th.

19. 2nd = (1st + 1); 3rd = (2nd + 2); 4th = (3rd + 3); 5th = (4th + 4).
But, 18 = 6th ≠ 5th + 5 = 14 + 5 = 19.
20. Each number except 279 is a multiple of 11.
21. The terms are alternately multiplied by 1.5 and divided by 3. However, 18.5 does not satisfy it.
22. Alternately 23 is added and 17 is subtracted from the terms. So, 634 is wrong.
23. The terms are successively divided by 12, 10, 8, 6, ... etc. So, 24 is wrong.
24. The numbers are 1^3, 2^3, 3^3, 4^3 etc. So, 124 is wrong; it must have been 5^3 *i.e.*, 125.
25. Terms at odd places are 5, 6, 7, 8 etc. and each term at even place is 16.
So, 9 is wrong.
26. The difference between two successive terms from the beginning are 7, 5, 7, 5, 7, 5.
So, 40 is wrong.
27. The numbers are 7×8, 8×9, 9×10, 10×11, 11×12, 12×13. So, 150 is wrong.
28. Go on adding 5, 8, 11, 14, 17, 20.
So, the number 47 is wrong and must be replaced by 46.
29. The numbers are squares of odd natural numbers, starting from 5 upto 15.
So, 36 is wrong.
30. Add 1^2, 2^2, 3^2, 4^2, 5^2, 6^2. So, 91 is wrong.
31. Subtract 1, 3, 5, 7, 9, 11 from successive numbers. So, 34 is wrong.
32. Subtract 20, 25, 30, 35, 40, 45 from successive numbers. So, 0 is wrong.
33. Each number is a composite number except 11.
34. Prime numbers 2, 3, 5, 7, 11, 13 are to be added successively. So, 165 is wrong.
35. Each number is the square of a composite number except 190.
36. Prime numbers 2, 3, 5, 7, 11, 13 have successively been subtracted.
So, 100 is wrong. It must be (108 – 11) *i.e.*, 97.
37. The pattern is 1×3, 2×5, 3×7, 4×9, 5×11, 6×13, 7×15 etc.
38. Double the number and add 1 to it, to get the next number. So, 160 is wrong.
39. Alternately, we add 4 and double the next.
So, 132 is wrong. It must be (68×2) *i.e.*, 136.
40. The numbers are cubes of primes *i.e.*, 2^3, 3^3, 5^3, 7^3, 11^3. Clearly, none is wrong.
41. Each number is the preceding number multiplied by – 2.
So, the required number is – 128.
42. Numbers are alternately multiplied by 2 and increased by 3.
So, the missing number = $61 \times 2 = 122$.
43. Numbers are 1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 7^2. So, the next number is $8^2 = 64$.
44. Numbers are 1^3, 2^3, 3^3, 4^3, 5^3, 6^3. So, the missing number is $7^3 = 343$.
45. Numbers are all primes. The next prime is 43.
46. Each number is twice the preceding one with 1 added or subtracted alternately.
So, the next number is $(2 \times 261 + 1) = 523$.
47. There are two series, beginning respectively with 3 and 7. In one 3 is added and in another 2 is subtracted. The next number is $1 - 2 = -1$.
48. Each number is double the preceding one plus 1.
So, the next number is $(255 \times 2) + 1 = 511$.
49. The pattern is 1×2, 2×3, 3×4, 4×5, 5×6, 6×7, 7×8.
So, the next number is $8 \times 9 = 72$.
50. Numbers are alternately multiplied by 3 and divided by 2.
So, the next number = $54 \div 2 = 27$.

51. Each number is 15 multiplied by a prime number *i.e.*, 15×11, 15×13, 15×17, 15×19, 15×23. So, the next number is $15 \times 29 = 435$.
52. Numbers are $(2^3 - 1)$, $(3^3 - 1)$, $(4^3 - 1)$, $(5^3 - 1)$, $(6^3 - 1)$, $(7^3 - 1)$ etc.
So, the next number is $(8^3 - 1) = (512 - 1) = 511$.
53. Go on multiplying the given numbers by 2, 3, 4, 5, 6. So, the correct next number is 1440.
54. There are two series (8, 11, 14, 17, 20) and (7, 12, 17, 22) increasing by 3 and 5 respectively.
55. There are two series (10, 13, 16, 19) and (5, 10, 20, 40), one increasing by 3 and the other multiplied by 2.
56. Each previous number is multiplied by 2.
57. Alternately, we add 5 and subtract 7.
58. Alternately, we add 3 and subtract 1.
59. Second number is one more than twice the first; third number is one less than twice the second; fourth number is one more than twice the third; fifth number is one less than the fourth. Therefore, the sixth number is one more than twice the fifth.
So, the missing number is 75.
60. The difference between consecutive terms are respectively 5, 7, 9, 11 and 13.
So, 34 is a wrong number.
61. $2 = (1^3 + 1)$; $9 = (2^3 + 1)$; $28 = (3^3 + 1)$; $65 = (4^3 + 1)$; $125 = (5^3 + 1)$; $216 \neq (6^3 + 1)$ and $344 = (7^3 + 1)$. So, 216 is a wrong number.
62. Multiply each term by 3 to obtain the next term. Hence, 30 is a wrong number.
63. Go on subtracting prime numbers, 19, 17, 13, 11, 7, 5 from the numbers to get the next number. So, 88 is wrong.
64. Go on subtracting 24, 21, 18, 15, 12, 9 from the numbers to get the next number.
Clearly, 128 is wrong.
65. Go on multiplying with 1, 2, 3, 4, 5, 6 to get the next number. So, 96 is wrong.
66. Go on dividing by 4 to get the next number. So, 200 is wrong.
67. Go on adding 7, 9, 11, 13, 15, 17, 19 respectively to obtain the next number.
So, 135 is wrong.
68. Let the given numbers be A, B, C, D, E, F, G. Then,
A, $A \times 1$, $B \times 2 + 2$, $C \times 3 + 3$, $D \times 4 + 4$, $E \times 5 + 5$, $F \times 6 + 6$ are the required numbers.
Clearly, 228 is wrong.
69. Go on multiplying the number by 2 and adding 1 to it to get the next number.
So, 27 is wrong.
70. Go on adding 7, 9, 11, 13, 15, 17 respectively to obtain the next number.
So, 33 is wrong.
71. Go on dividing by 6, 5, 4, 3, 2, 1 respectively to obtain the next number.
Clearly, 92 is wrong.
72. Go on subtracting 3 and dividing the result by 2 to obtain the next number.
Clearly, 46 is wrong.
73. Go on multiplying 2 and adding 1 to get the next number. So, 39 is wrong.
74. $A \times 2 + 1$, $B \times 3 + 1$, $C \times 2 + 1$, $D \times 3 + 1$ and so on. So, 356 is wrong.
75. Numbers must be $(14)^2$, $(13)^2$, $(11)^2$, $(10)^2$, $(9)^2$, $(8)^2$. So, 80 is wrong.
76. Each even term of the series is obtained by multiplying the previous term by 2.
2nd term = (1st term) $\times$ 2 = $6 \times 2 = 12$; 4th term = (3rd term) $\times$ 2 = $48 \times 2 = 96$;
6th term = (5th term) $\times$ 2 = $384 \times 2 = 768$.
$\therefore$ 4th term should be 96 instead of 100.

77. 2nd term = (1st term) × 3 − 4 = 10 × 3 − 4 = 26;
3rd term = (2nd term) × 3 − 4 = 26 × 3 − 4 = 74;
4th term = (3rd term) × 3 − 4 = 74 × 3 − 4 = 218;
5th term = (4th term) × 3 − 4 = 218 × 3 − 4 = 650.
∴ 5th term must be 650 instead of 654.

78. 2nd term = (1st term) × 1 + 1 = 15 × 1 + 1 = 16;
3rd term = (2nd term) × 2 + 2 = 16 × 2 + 2 = 34;
4th term = (3rd term) × 3 + 3 = 34 × 3 + 3 = 105;
5th term = (4th term) × 4 + 4 = 105 × 4 + 4 = 424;
6th term = (5th term) × 5 + 5 = 425 × 5 + 5 = 2125.
∴ 6th term should be 2125 instead of 2124.

79. 7th term = (8th term) × 2 + 1 = 20 × 2 + 1 = 41;
6th term = (7th term) × 2 + 2 = 41 × 2 + 2 = 84;
5th term = (6th term) × 2 + 3 = 84 × 2 + 3 = 171;
4th term = (5th term) × 2 + 4 = 171 × 2 + 4 = 346.
∴ 4th term should be 346 instead of 347.

80. 2nd term = (1st term) + 2^2 = 32 + 4 = 36; 3rd term = (2nd term) + 3^2 = 36 + 9 = 45;
4th term = (3rd term) + 4^2 = 45 + 16 = 61; 5th term = (4th term) + 5^2 = 61 + 25 = 86.
∴ 3rd term should be 45 instead of 41.

81. There are two sequences (3, 9, 67.5, 810) and (4, 22.5, 202.5).
Pattern is : (1st term × 3), (2nd term × 7.5), (3rd term × 12) for the first sequence and (1st term × 5), (2nd term × 9) and so on for the second sequence.

82. 2nd term = (1st term × 1 + 1^2) = 1 × 1 + 1^2 = 2;
3rd term = (2nd term × 2 + 2^2) = 2 × 2 + 2^2 = 8;
4th term = (3rd term × 3 + 3^2) = 8 × 3 + 3^2 = 33;
5th term = (4th term × 4 + 4^2) = 33 × 4 + 4^2 = 148;
6th term = (5th term × 5 + 5^2) = 148 × 5 + 5^2 = 765.
∴ 760 is wrong.

83. 2nd term = (1st term × 2 + 2) = 3 × 2 + 2 = 8;
3rd term = (2nd term × 2 + 4) = 8 × 2 + 4 = 20;
4th term = (3rd term × 2 + 6) = 20 × 2 + 6 = 46;
5th term = (4th term × 2 + 8) = 46 × 2 + 8 = 100 and so on.
∴ 18 is wrong.

84. 2nd term = 1st term − $(12)^2$ = 789 − 144 = 645;
3rd term = (2nd term) − $(10)^2$ = 645 − 100 = 545;
4th term = (3rd term) − $(8)^2$ = 545 − 64 = 481;
5th term = (4th term) − $(6)^2$ = 481 − 36 = 445.
∴ 440 is wrong.

85. 2nd term = (1st term − 30) ÷ 2 = $\left(\frac{1050-30}{2}\right)$ = 510;

3rd term = (2nd term − 26) ÷ 2 = $\left(\frac{510-26}{2}\right)$ = 242;

4th term = (3rd term − 22) ÷ 2 = $\left(\frac{242-22}{2}\right)$ = 110.

∴ 106 is wrong.

86. 2nd term = (1st term $\times$ 2 $-$ 2) = $(5 \times 2 - 2) = 8$;
3rd term = (2nd term $\times$ 3 $-$ 2) = $(8 \times 3 - 2) = 22$;
4th term = (3rd term $\times$ 2 $-$ 2) = $(22 \times 2 - 2) = 42$;
5th term = (4th term $\times$ 3 $-$ 2) = $(42 \times 3 - 2) = 124$ and so on.
$\therefore$ 20 is wrong.

87. 2nd term = (1st term $\times$ 1.5) = $2 \times 1.5 = 3$; 3rd term = (2nd term $\times$ 2) = $3 \times 2 = 6$;
4th term = (3rd term $\times$ 2.5) = $6 \times 2.5 = 15$; 5th term = (4th term $\times$ 3) = $15 \times 3 = 45$.
$\therefore$ 52.5 is wrong.

88. 2nd term $= \left(\frac{\text{1st term} - 8}{2}\right) = \left(\frac{888 - 8}{2}\right) = 440$;

3rd term $= \left(\frac{\text{2nd term} - 8}{2}\right) = \left(\frac{440 - 8}{2}\right) = 216$;

4th term $= \left(\frac{\text{3rd term} - 8}{2}\right) = \left(\frac{216 - 8}{2}\right) = 104$;

5th term $= \left(\frac{\text{4th term} - 8}{2}\right) = \left(\frac{104 - 8}{2}\right) = 48$;

6th term $= \left(\frac{\text{5th term} - 8}{2}\right) = \left(\frac{48 - 8}{2}\right) = 20$.

$\therefore$ 22 is wrong.

89. 2nd term = (1st term $\times$ 1 + 2) = $(4 \times 1 + 2) = 6$;
3rd term = (2nd term $\times$ 2 + 3) = $(6 \times 2 + 3) = 15$;
4th term = (3rd term $\times$ 3 + 4) = $(15 \times 3 + 4) = 49$;
5th term = (4th term $\times$ 4 + 5) = $(49 \times 4 + 5) = 210$ and so on.
$\therefore$ 5 is wrong.