



# The Winners Institute

# Reasoning

# Number Series

## Practice Sheet

Basic to High Level with solution



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**SBI PO & LIC AAO  
(2013- Batch) Selected**



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# Number Series - Practice Sheet

निर्देश: (1-45) निम्नलिखित प्रश्नों में प्रश्नवाचक चिन्ह (?) के स्थान पर क्या आयेगा?

Directions (1-10): What will come in place of question mark (?) in the following questions?

1. 1, 5, 14, 30, 55, 91, ?  
(a) 128 (b) 140  
(c) 135 (d) 138
2. 5, 12, 26, 47, 75, ?  
(a) 100 (b) 115  
(c) 105 (d) 110
3. 36, 45, 63, 90, 126, ?  
(a) 171 (b) 165  
(c) 174 (d) 161
4. 21, 30, 55, 104, 225, ?  
(a) 388 (b) 372  
(c) 380 (d) 394
5. 6, 18, 42, 90, 186, ?  
(a) 390 (b) 384  
(c) 360 (d) 378
6. 12, 13, 22, 47, 96, ?  
(a) 177 (b) 217  
(c) 196 (d) 160
7. 6, 3, 3, 4.5, 9, ?  
(a) 23.5 (b) 20  
(c) 22.5 (d) 21.5
8. 16, 22, 33, 49, 70, ?  
(a) 95 (b) 96  
(c) 85 (d) 91
9. 3680, 1840, 920, 460, ?, 115, 57.5  
(a) 225 (b) 230  
(c) 220 (d) 245
10. 3, 12, 48, 192, 768, ?  
(a) 3132 (b) 3072  
(c) 3060 (d) 3020
11. 4, 2, 2, 4, 16, ?  
(a) 64 (b) 72  
(c) 96 (d) 128
12. 1, 2, 10, 37, 101, 226, ?  
(a) 324 (b) 442  
(c) 526 (d) 636
13. 2, 2, 3, 6, 15, 45, 157.5, ?  
(a) 250 (b) 320  
(c) 450 (d) 630
14. 2160, ?, 72, 18, 6, 3  
(a) 280 (b) 170  
(c) 360 (d) 340
15. 6, 3, 3, 4.5, 9, ?  
(a) 22.5 (b) 22  
(c) 23 (d) 23.5
16. 1440, ?, 48, 12, 4, 2  
(a) 240 (b) 260  
(c) 220 (d) 390
17. 339, ?, 345, 353, 369  
(a) 353 (b) 340  
(c) 290 (d) 341
18. 24, 48, 144, 576, 2880, ?  
(a) 17280 (b) 16640  
(c) 14400 (d) 20160
19. 5, 5, 15, 75, 525, 4725, ?  
(a) 51795 (b) 51975  
(c) 51025 (d) 51075
20. 196, 200, 209, 234, 283, 404, 573, ?  
(a) 872 (b) 840  
(c) 862 (d) 878
21. 7, 13, 24, 40, 61, ?  
(a) 87 (b) 92  
(c) 89 (d) 93
22. 1200, 1119, 1055, 1006, ?  
(a) 960 (b) 970  
(c) 910 (d) 900
23. 2561, 2440, 2359, 2310, 2285, ?  
(a) 2233 (b) 2224  
(c) 2269 (d) 2276
24. 135, 99, 45, 27, 15, 9  
(a) 65 (b) 66  
(c) 67 (d) 69
25. 20, 19, 20, 18, 20, ?

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- (a) 17 (b) 13  
(c) 14 (d) 15
26. 87, 109, 142, 186, ?  
(a) 214 (b) 124  
(c) 241 (d) 421
27. 210, 420, 1050, 3150, ?  
(a) 11025 (b) 5690  
(c) 7654 (d) 9876
28. 1011, 980, 951, 924, 899, ?  
(a) 874 (b) 876  
(c) 808 (d) 796
29. 57, 59.5, 54.5, 62, 52, ?  
(a) 64.5 (b) 31.5  
(c) 65.5 (d) 55.5
30. 54, 55, 63, 90, 154, ?  
(a) 265 (b) 321  
(c) 254 (d) 279
31. 117, 136, 154, 171, 187, ?  
(a) 202 (b) 208  
(c) 210 (d) 212
32. 5, 30, 150, ?, 1800, 3600  
(a) 520 (b) 600  
(c) 560 (d) 460
33. 69120, ?, 864, 144, 36, 18  
(a) 6912 (b) 5680  
(c) 4894 (d) 5422
34. 12, 18, 36, 90, 270, ?  
(a) 945 (b) 245  
(c) 215 (d) 285
35. 31, 43, 57, ?, 91, 111  
(a) 48 (b) 51  
(c) 56 (d) 73
36. ?, 39, 117, 351, 1053, 3159  
(a) 26 (b) 11  
(c) 13 (d) 14
37. 121, 134, 151, 170, 193, ?  
(a) 212 (b) 216  
(c) 222 (d) 227
38. 32, 80, ?, 840, 3360, 15120
- (a) 320 (b) 360  
(c) 240 (d) 420
39. 13, ?, 326, 522, 747, 1003  
(a) 157 (b) 997  
(c) 119 (d) 127
40. 99, 96, 80, ?, -1341  
(a) -41 (b) -48  
(c) -45 (d) -63
41. ?, 289, 169, 121, 49, 25  
(a) 324 (b) 361  
(c) 256 (d) 225
42. 15, 82, 151, ?, 295, 370  
(a) 222 (b) 256  
(c) 268 (d) 231
43. 21, 42, ?, 504, 2520, 15120  
(a) 111 (b) 126  
(c) 117 (d) 120
44. 4826809, 371293, 28561, 2197, 169, ?  
(a) 13 (b) 31  
(c) 22 (d) 40
45. 29, 42, 57, 74, 93, ?  
(a) 120 (b) 114  
(c) 131 (d) 135
46. इस श्रृंखला को देखें: 4, 2, 1, (1/2), (1/4), ...  
आगे कौन सी संख्या आनी चाहिए  
Look at this series: 4, 2, 1, (1/2), (1/4), ...  
What number should come next  
(a) (1/3) (b) (1/8)  
(c) (2/8) (d) (1/16)
47. इस श्रृंखला को देखें: 7, 10, 8, 11, 9, 12, ... आगे  
कौन सी संख्या आनी चाहिए?  
Look at this series: 7, 10, 8, 11, 9, 12, ...  
What number should come next?  
(a) 7 (b) 10  
(c) 12 (d) 13
48. इस श्रृंखला को देखें: 36, 34, 30, 28, 24, ... आगे  
कौन सी संख्या आनी चाहिए?  
Look at this series: 36, 34, 30, 28, 24, ...  
What number should come next?

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(a) 20  
(c) 23

(b) 22  
(d) 26

49. इस श्रृंखला को देखें: 22, 21, 23, 22, 24, 23, ...  
आगे कौन सी संख्या आनी चाहिए?

Look at this series: 22, 21, 23, 22, 24, 23, ...  
What number should come next?

(a) 22  
(c) 25

(b) 24  
(d) 26

50. इस श्रृंखला को देखें: 53, 53, 40, 40, 27, 27, ...  
आगे क्या नंबर आना चाहिए?

Look at this series: 53, 53, 40, 40, 27, 27, ...  
What number should come next?

(a) 12  
(c) 27

(b) 14  
(d) 53

निर्देश: (51-75) निम्नलिखित प्रश्नों में प्रश्नवाचक चिन्ह (?) के स्थान पर क्या आयेगा?

Directions (51-75): What will come in place of question mark (?) in the following questions?

51. 2, 12, 36, 80, 150, ?

(a) 250  
(c) 200

(b) 252  
(d) 270

52. 6, 14, 36, 98, ?

(a) 276  
(c) 220

(b) 275  
(d) 274

53. 5, 16, 49, 104, ?

(a) 171  
(c) 181

(b) 191  
(d) 161

54. 8, 7, 11, 12, 14, 17, 17, 22, ?

(a) 27  
(c) 24

(b) 20  
(d) 22

55. 2, 6, 12, 20, 30, 42, 56, ?

(a) 61  
(c) 70

(b) 64  
(d) 72

56. 4, -8, 16, -32, 64, ?

(a) 128  
(c) 192

(b) -128  
(d) -192

57. 7, 26, 63, 124, 215, 342, ?

(a) 481  
(c) 391

(b) 511  
(d) 421

58. 1, 6, 13, 22, 33, ?

(a) 44  
(c) 46

(b) 45  
(d) 47

59. 132 156 182 210 240 ?

(a) 272  
(c) 296

(b) 284  
(d) 302

60. 186 210 258 282 ? 354

(a) 318  
(c) 326

(b) 330  
(d) 352

61. 11 53 93 129 159 ?

(a) 162  
(c) 181

(b) 174  
(d) 206

62. 383 394 407 414 419 ?

(a) 429  
(c) 452

(b) 446  
(d) 438

63. 35 210 1050 4200 ? 25200

(a) 12600  
(c) 12580

(b) 12340  
(d) 12200

64. 25 32 37 47 58 ?

(a) 66  
(c) 79

(b) 71  
(d) 84

65. 240 122 64 36 23 ?

(a) 11  
(c) 17.5

(b) 19.5  
(d) 8

66. 45 49 40 56 ? 67

(a) 49  
(c) 38

(b) 43  
(d) 31

67. 256 374 504 646 800 ?

(a) 966  
(c) 902

(b) 848  
(d) 874

68. 26, 12, 10, 16, ?

(a) 50  
(c) 53

(b) 52  
(d) 56

69. 122, 213, 340, 509, 726, ?

(a) 942  
(c) 919

(b) 997  
(d) 950

70. 25, 37.5, 56.25, ?, 12.5625



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- (a) 72.375 (b) 84.375  
(c) 92.255 (d) 59.750
71. 10, 50, 94, 142, 194, ?  
(a) 250 (b) 270  
(c) 260 (d) 240
72. 3420, 1660, 780, 340, ?, 10  
(a) 135 (b) 120  
(c) 75 (d) 185
73. 2, 10, 30, 68, ?  
(a) 160 (b) 125  
(c) 130 (d) 135
74. 26, 34, ?, 50, -6, 66  
(a) 12 (b) 10  
(c) 22 (d) 8
75. 52, ?, 105, 149, 206, 277  
(a) 75 (b) 84  
(c) 73 (d) 18
- निर्देश: (76-100) निम्नलिखित प्रश्नों में गलत संख्या का पता लगाईए।  
Directions: (76-100) Find out the wrong number in the following questions?
76. 20, 21, 43, 140, 521, 2606  
(a) 20 (b) 21  
(c) 43 (d) 140
77. 15, 14, 26, 76, 296, 1475  
(a) 15 (b) 14  
(c) 26 (d) 76
78. 4 12 77 292 804 1804  
(a) 4 (b) 12  
(c) 292 (d) 77
79. 3 6 25 144 1152 11520  
(a) 3 (b) 6  
(c) 25 (d) 144
80. 64, 160, 400, 1000, 2500, 3600  
(a) 400 (b) 1000  
(c) 3600 (d) 160
81. 1, 730, 779, 904, 913, 920  
(a) 913 (b) 920  
(c) 730 (d) 779
82. 64, 32, 48, 110, 420, 1890  
(a) 32 (b) 1890  
(c) 420 (d) 110
83. 2, 218, 561, 1073, 1800, 2802  
(a) 2802 (b) 1800  
(c) 1073 (d) 561
84. 6, 15, 42, 120, 366, 1095  
(a) 6 (b) 15  
(c) 42 (d) 120
85. 20, 75, 192, 579, 1740, 5223  
(a) 75 (b) 192  
(c) 579 (d) 1740
86. 4, 5, 18, 90, 672, 6057  
(a) 4 (b) 5  
(c) 18 (d) 90
87. 2592, 864, 576, 624, 768, 1280  
(a) 624 (b) 1280  
(c) 864 (d) 768
88. 15, 46, 139, 418, 1255, 3770  
(a) 46 (b) 139  
(c) 418 (d) 3770
89. 18, 92, 360, 1112, 2226, 2228  
(a) 18 (b) 92  
(c) 360 (d) 1112
90. 18, 20, 40, 123, 496, 2485  
(a) 18 (b) 20  
(c) 40 (d) 123
91. 7, 14, 42, 168, 720, 5040  
(a) 14 (b) 720  
(c) 42 (d) 5040
92. 12, 24, 50, 96, 192, 384  
(a) 12 (b) 24  
(c) 50 (d) 96
93. 15, 48, 99, 168, 245, 360  
(a) 99 (b) 245  
(c) 168 (d) 48
94. 23, 48, 98, 198, 398, 796  
(a) 796 (b) 48  
(c) 198 (d) 398

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95. 32, 16, 24, 84, 546, 872  
(a) 16 (b) 84  
(c) 872 (d) 24
96. 113, 93, 75, 59, 42, 33  
(a) 42 (b) 75  
(c) 93 (d) 59
97. 143, 126, 107, 84, 55, 22  
(a) 22 (b) 126  
(c) 55 (d) 107
98. 12, 25, -7, 57, -68, 148  
(a) 12 (b) 25  
(c) -7 (d) 57
99. 8, 15, 28, 53, 102, 210  
(a) 15 (b) 28  
(c) 53 (d) 210
100. 15, 40, 76, 125, 190, 270  
(a) 40 (b) 76  
(c) 125 (d) 190

WINNERS

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## ANSWERS

1.	(b)	2.	(d)	3.	(a)	4.	(d)	5.	(d)
6.	(a)	7.	(c)	8.	(b)	9.	(b)	10.	(b)
11.	(d)	12.	(b)	13.	(d)	14.	(c)	15.	(a)
16.	(a)	17.	(d)	18.	(a)	19.	(b)	20.	(c)
21.	(a)	22.	(b)	23.	(d)	24.	(d)	25.	(a)
26.	(c)	27.	(a)	28.	(b)	29.	(a)	30.	(d)
31.	(a)	32.	(b)	33.	(a)	34.	(a)	35.	(d)
36.	(c)	37.	(c)	38.	(c)	39.	(a)	40.	(c)
41.	(b)	42.	(a)	43.	(b)	44.	(a)	45.	(b)
46.	(b)	47.	(b)	48.	(b)	49.	(c)	50.	(b)
51.	(b)	52.	(a)	53.	(c)	54.	(b)	55.	(d)
56.	(b)	57.	(b)	58.	(c)	59.	(a)	60.	(b)
61.	(c)	62.	(a)	63.	(a)	64.	(b)	65.	(c)
66.	(d)	67.	(a)	68.	(d)	69.	(b)	70.	(b)
71.	(a)	72.	(b)	73.	(c)	74.	(b)	75.	(c)
76.	(d)	77.	(d)	78.	(d)	79.	(c)	80.	(c)
81.	(b)	82.	(d)	83.	(b)	84.	(d)	85.	(a)
86.	(d)	87.	(a)	88.	(d)	89.	(c)	90.	(b)
91.	(b)	92.	(c)	93.	(b)	94.	(a)	95.	(c)
96.	(a)	97.	(a)	98.	(b)	99.	(d)	100.	(d)

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## Solution

1. (b)  
Pattern is  $+2^2, +3^2, +4^2, +5^2, \dots$   
 $? = 91 + 7^2 = 140$
2. (d)  

5	12	26	47	75	110
	+7	+14	+21	+28	+35
3. (a)  

36	45	63	90	126	171
	+9	+18	+27	+36	+45
4. (d)  

21	30	55	104	225	394
	+9	+25	+49	+121	+169
	$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$	$\uparrow$
	$3^2$	$5^2$	$7^2$	$11^2$	$13^2$
5. (d)  

6	18	42	90	186	378
	+12	+24	+48	+96	+192
6. (a)  

12	13	22	47	96	177
	+1	+9	+25	+49	+81
7. (c)  

6	3	3	4.5	9	22.5
	$\times 0.5$	$\times 1$	$\times 1.5$	$\times 2$	$\times 2.5$
8. (b)  
Pattern is  $+6, +11, +16, +21, +26$   
 $\therefore ? = 70 + 26 = 96$
9. (b)  
Pattern is  $\div 2, \div 2, \div 2, \div 2, \div 2$   
 $\therefore ? = 460 \div 2 = 230$
10. (b)  
Series is  $\times 4, \times 4, \times 4, \times 4, \times 4, \dots$   
 $= 768 \times 4$

$$= 3072$$

11. (d)  
 $4 \times .5 = 2$   
 $2 \times 1 = 2$   
 $2 \times 2 = 4$   
 $4 \times 4 = 16$   
 $16 \times 8 = 128$
12. (b)  
 $1 + 1^3 = 2$   
 $2 + 2^3 = 10$   
 $10 + 3^3 = 37$   
 $37 + 4^3 = 101$   
 $101 + 5^3 = 226$   
 $226 + 6^3 = 442$
13. (d)  
 $2 \times 1 = 2$   
 $2 \times 1.5 = 3$   
 $3 \times 2 = 6$   
 $6 \times 2.5 = 15$   
 $15 \times 3 = 45$   
 $45 \times 3.5 = 157.5$   
 $157.5 \times 4 = 630$
14. (c)  
 $3 \times 2 = 6$   
 $6 \times 3 = 18$   
 $18 \times 4 = 72$   
 $72 \times 5 = 360$   
 $360 \times 6 = 2160$   
**Answer: 360**
15. (a)  
 $6 \times 0.5 = 3$   
 $3 \times 1 = 3$   
 $3 \times 1.5 = 4.5$   
 $4.5 \times 2 = 9$   
 $9 \times 2.5 = 22.5$
16. (a)  
 $2 \times 2 = 4$   
 $4 \times 3 = 12$   
 $12 \times 4 = 48$   
 $48 \times 5 = 240$   
 $240 \times 6 = 1440$   
**Answer: 240**
17. (d)  
 $339 + 2^1 = 341$   
 $341 + 2^2 = 345$



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$$345 + 2^3 = 353$$

$$353 + 2^4 = 369$$

Answer: 341

18. (a)  
 $24 \times 2 = 48$   
 $48 \times 3 = 144$   
 $144 \times 4 = 576$   
 $576 \times 5 = 2880$   
 $2880 \times 6 = 17280$

19. (b)  
 $5 \times 1 = 5$   
 $5 \times 3 = 15$   
 $15 \times 5 = 75$   
 $75 \times 7 = 525$   
 $525 \times 9 = 4725$   
 $4725 \times 11 = 51975$

20. (c)  
Add square of prime no. in each step  
4, 9, 25, 49, 121, so on

21. (a)  
 $7 + 6 = 13$   
 $13 + 11 = 24$   
 $24 + 16 = 40$   
 $40 + 21 = 61$   
 $61 + 26 = 87$

22. (b)  
 $1200 - 81 = 1119$   
 $1119 - 64 = 1055$   
 $1055 - 49 = 1006$   
 $1006 - 36 = 970$

23. (d)  
 $2561 - 121 = 2440$   
 $2440 - 81 = 2359$   
 $2359 - 49 = 2310$   
 $2310 - 25 = 2285$   
 $2285 - 9 = 2276$

24. (d)  
 $9 + 6 = 15$   
 $15 + 12 = 27$   
 $27 + 18 = 45$   
 $45 + 24 = 69$   
 $69 + 30 = 99$   
 $99 + 36 = 135$

25. (a)

$$20 - 1 = 19$$

$$19 + 1 = 20$$

$$20 - 2 = 18$$

$$18 + 2 = 20$$

$$20 - 3 = 17$$

26. (c)  
 $87 + 22 = 109$   
 $109 + 33 = 142$   
 $142 + 44 = 186$   
 $186 + 55 = 241$

27. (a)  
 $210 \times 2 = 420$   
 $420 \times 2.5 = 1050$   
 $1050 \times 3 = 3150$   
 $3150 \times 3.5 = 11025$

28. (b)  
 $1011 - 31 = 980$   
 $980 - 29 = 951$   
 $951 - 27 = 924$   
 $924 - 25 = 899$   
 $899 - 23 = 876$

29. (a)  
 $57 + 2.5 = 59.5$   
 $59.5 - 5 = 54.5$   
 $54.5 + 7.5 = 62$   
 $62 - 10 = 52$   
 $52 + 12.5 = 64.5$

30. (d)  
 $54 + 1 = 55$   
 $55 + 8 = 63$   
 $63 + 27 = 90$   
 $90 + 64 = 154$   
 $154 + 125 = 279$

31. (a)  
 $117 + 19 = 136$   
 $136 + 18 = 154$   
 $154 + 17 = 171$   
 $171 + 16 = 187$   
 $187 + 15 = 202$

32. (b)  
 $5 \times 6 = 30$   
 $30 \times 5 = 150$   
 $150 \times 4 = 600$   
 $600 \times 3 = 1800$   
 $1800 \times 2 = 3600$

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33. (a)  
 $69120 \div 10 = 6912$   
 $6912 \div 8 = 864$   
 $864 \div 6 = 144$   
 $144 \div 4 = 36$   
 $36 \div 2 = 18$

34. (a)  
 $12 \times 1.5 = 18$   
 $18 \times 2 = 36$   
 $36 \times 2.5 = 90$   
 $90 \times 3 = 270$   
 $270 \times 3.5 = 945$

35. (d)  
 $31 + 12 = 43$   
 $43 + 14 = 57$   
 $57 + 16 = 73$   
 $73 + 18 = 91$   
 $91 + 20 = 111$

36. (c)  
 $13 + (13 \times 2) = 39$   
 $39 + (39 \times 2) = 117$   
 $117 + (117 \times 2) = 351$   
 $351 + (351 \times 2) = 1053$   
 $1053 + (1053 \times 2) = 3159$

37. (c)  
 $121 + 13 = 134$   
 $134 + 17 = 151$   
 $151 + 19 = 170$   
 $170 + 23 = 193$   
 $193 + 29 = 222$

38. (c)  
 $32 \times 2.5 = 80$   
 $80 \times 3 = 240$   
 $240 \times 3.5 = 840$   
 $840 \times 4 = 3360$   
 $3360 \times 4.5 = 15120$

39. (a)  
 $13 + 122 = 157$   
 $157 + 132 = 326$   
 $326 + 142 = 522$   
 $522 + 152 = 747$   
 $747 + 162 = 1003$

40. (c)  
 $99 - 3^1 = 96$   
 $96 - 4^2 = 80$

$$80 - 5^3 = -45$$
$$-45 - 6^4 = -1341$$

41. (b)  
 $19^2 = 361$   
 $17^2 = 289$   
 $13^2 = 169$   
 $11^2 = 121$   
 $7^2 = 49$   
 $5^2 = 25$

42. (a)  
 $15 + 67 = 82$   
 $82 + 69 = 151$   
 $151 + 71 = 222$   
 $222 + 73 = 295$   
 $295 + 75 = 370$

43. (b)  
 $21 \times 2 = 42$   
 $42 \times 3 = 126$   
 $126 \times 4 = 504$   
 $504 \times 5 = 2520$   
 $2520 \times 6 = 15120$

44. (a)  
 $4826809/13 = 371293$   
 $371293/13 = 28561$   
 $28561/13 = 2197$   
 $2197/13 = 169$   
 $169/13 = 13$

45. (b)  
 $9 \times 3 + 2 = 29$   
 $10 \times 4 + 2 = 42$   
 $11 \times 5 + 2 = 57$   
 $12 \times 6 + 2 = 74$   
 $13 \times 7 + 2 = 93$   
 $14 \times 8 + 2 = 114$

46. (b)  
This is a simple division series; each number is one-half of the previous number.  
In other terms to say, the number is divided by 2 successively to get the next result.  
 $4/2 = 2$   
 $2/2 = 1$   
 $1/2 = 1/2$   
 $(1/2)/2 = 1/4$   
 $(1/4)/2 = 1/8$  and so on.

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47. (b)  
This is a simple alternating addition and subtraction series. In the first pattern, 3 is added; in the second, 2 is subtracted.
48. (b)  
This is an alternating number subtraction series. First, 2 is subtracted, then 4, then 2, and so on.
49. (c)  
In this simple alternating subtraction and addition series; 1 is subtracted, then 2 is added, and so on.
50. (b)  
In this series, each number is repeated, then 13 is subtracted to arrive at the next number.
51. (b)  
A unique pattern has been made into use in this series.  
All numbers are  $(n^3 + n^2)$  where  $n$  is 1, 2, 3 and so on.
52. (a)  
 $6 = 1^1 + 2^1 + 3^1$   
 $14 = 1^2 + 2^2 + 3^2$   
 $36 = 1^3 + 2^3 + 3^3$   
 $98 = 1^4 + 2^4 + 3^4$   
 Thus the next number will be  
 $1^5 + 2^5 + 3^5 = 276$
53. (c)  
 $+11 = 16$   
 $+33 = 49$   
 $+55 = 104$   
 $+77 = 181$
54. (b)  
There are two series (8, 11, 14, 17, 20) and (7, 12, 17, 22) increasing by 3 and 5 respectively.
55. (d)  
The pattern is  $1 \times 2, 2 \times 3, 3 \times 4, 4 \times 5, 5 \times 6, 6 \times 7, 7 \times 8$ .  
So, the next number is  $8 \times 9 = 72$ .
56. (b)  
Each number is the proceeding number multiplied by -2.  
So, the required number is -128.
57. (b)  
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  $(8^3 - 1) = (512 - 1) = 511$ .
58. (c)  
The pattern is  $+ 5, + 7, + 9, + 11, \dots$   
 $\therefore$  Missing number  $= 33 + 13 = 46$ .
59. (a)  

Series Pattern	Given Series
$11 \times 12 = 132$	132
$12 \times 13 = 156$	156
$13 \times 14 = 182$	182
$14 \times 15 = 210$	240
$15 \times 16 = 240$	240
$16 \times 17 = 272$	272 ✓

 Hence, option (A) is correct.
60. (b)  

186	186	
$186 + 24 = 210$		210
$210 + 48 = 258$		258
$258 + 24 = 282$		282
$282 + 48 = 330$		330 ✓
$330 + 24 = 354$		354

 Hence, option (B) is correct.
61. (c)  

11	11	
$11 + 42 = 53$		53
$53 + 40 = 93$		93
$93 + 36 = 129$		129
$129 + 30 = 159$		159
$159 + 22 = 181$		181 ✓

 Hence, option (C) is correct.
62. (a)  

Series Pattern	Given Series
383	383
$383 + (8 + 3) = 394$	394
$394 + (9 + 4) = 407$	407
$407 + (0 + 7) = 414$	414
$414 + (1 + 4) = 419$	419
$419 + (1 + 9) = 429$	429 ✓

 Hence, option (A) is correct.

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63. (a)
- | Series Pattern           | Given Series |
|--------------------------|--------------|
| 35                       | 35           |
| $35 \times 6 = 210$      | 210          |
| $210 \times 5 = 1050$    | 1050         |
| $1050 \times 4 = 4200$   | 4200         |
| $4200 \times 3 = 12600$  | 12600 ✓      |
| $12600 \times 2 = 25200$ | 25200        |
- Hence, option (A) is correct.

64. (b)
- | Series Pattern      | Given Series |
|---------------------|--------------|
| 25                  | 25           |
| $25 + (2 + 5) = 32$ | 32           |
| $32 + (3 + 2) = 37$ | 37           |
| $37 + (3 + 7) = 47$ | 47           |
| $47 + (4 + 7) = 58$ | 58           |
| $58 + (5 + 8) = 71$ | 71 ✓         |
- Here, digits of a number are being added to give us the next term in the series. Hence, option (B) is correct.

65. (c)
- | Series Pattern         | Given Series |
|------------------------|--------------|
| 240                    | 240          |
| $240 \div 2 + 2 = 122$ | 122          |
| $122 \div 2 + 3 = 64$  | 64           |
| $64 \div 2 + 4 = 36$   | 36           |
| $36 \div 2 + 5 = 23$   | 23           |
| $23 \div 2 + 6 = 17.5$ | 17.5 ✓       |
- Hence, option (C) is correct.

66. (d)
- | Series Pattern  | Given Series |
|-----------------|--------------|
| 45              | 45           |
| $45 + 2^2 = 49$ | 49           |
| $49 - 3^2 = 40$ | 40           |
| $40 + 4^2 = 56$ | 56           |
| $56 - 5^2 = 31$ | 31 ✓         |
| $31 + 6^2 = 67$ | 67           |
- Hence, option (D) is correct.

67. (a)
- | Series Pattern    | Given Series |
|-------------------|--------------|
| 256               | 256          |
| $256 + 118 = 374$ | 374          |
| $374 + 130 = 504$ | 504          |
| $504 + 142 = 646$ | 646          |
| $646 + 154 = 800$ | 800          |
| $800 + 166 = 966$ | 966 ✓        |
- Hence, option (A) is correct.

68. (d)
- |                |                |                |                |    |
|----------------|----------------|----------------|----------------|----|
| 26             | 12             | 10             | 16             | 56 |
| $\times 5 - 1$ | $\times 1 - 2$ | $\times 2 - 4$ | $\times 4 - 8$ |    |

69. (b)
- |           |           |           |           |           |            |
|-----------|-----------|-----------|-----------|-----------|------------|
| 122       | 213       | 340       | 509       | 726       | 997        |
| $5^3 - 3$ | $6^3 - 3$ | $7^3 - 3$ | $8^3 - 3$ | $9^3 - 3$ | $10^3 - 3$ |

70. (b)
- |              |              |              |              |          |
|--------------|--------------|--------------|--------------|----------|
| 25           | 37.5         | 56.25        | 84.375       | 126.5625 |
| $\times 1.5$ | $\times 1.5$ | $\times 1.5$ | $\times 1.5$ |          |

71. (a)
- |       |       |       |       |       |     |
|-------|-------|-------|-------|-------|-----|
| 10    | 50    | 94    | 142   | 194   | 250 |
| $+40$ | $+44$ | $+48$ | $+52$ | $+56$ |     |
| $+4$  | $+4$  | $+4$  | $+4$  |       |     |

72. (b)
- |               |               |               |               |               |    |
|---------------|---------------|---------------|---------------|---------------|----|
| 3420          | 1660          | 780           | 340           | 120           | 10 |
| $\div 2 - 50$ | $\div 2 - 50$ | $\div 2 - 50$ | $\div 2 - 50$ | $\div 2 - 50$ |    |

73. (c)
- |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|
| 2         | 10        | 30        | 68        | 130       |
| $1^3 + 1$ | $2^3 + 2$ | $3^3 + 3$ | $4^3 + 4$ | $5^3 + 5$ |

74. (b)
- |      |       |       |       |       |    |
|------|-------|-------|-------|-------|----|
| 26   | 34    | 10    | 50    | -6    | 66 |
| $+8$ | $-24$ | $+40$ | $-56$ | $+72$ |    |

75. (c)
- |       |       |       |       |       |     |
|-------|-------|-------|-------|-------|-----|
| 52    | 73    | 105   | 149   | 206   | 277 |
| $+21$ | $+32$ | $+44$ | $+57$ | $+71$ |     |
| $+11$ | $+12$ | $+13$ | $+14$ |       |     |

76. (d)
- $$20 \times 1 + 1 = 21$$
- $$21 \times 2 + 1 = 43$$
- $$43 \times 3 + 1 = 130$$
- $$130 \times 4 + 1 = 521$$
- $$521 \times 5 + 1 = 2606$$

77. (d)
- $$15 \times 1 - 1 = 14$$
- $$14 \times 2 - 2 = 26$$

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$$26 \times 3 - 3 = 75$$
$$75 \times 4 - 4 = 296$$
$$296 \times 5 - 5 = 1475$$

78. (d)

$$4 + 2^3 = 12$$
$$12 + 4^3 = 76$$
$$76 + 6^3 = 292$$
$$292 + 8^3 = 804$$
$$804 + 10^3 = 1804$$

79. (c)

$$3 \times 2 = 6$$
$$6 \times 4 = 24$$
$$24 \times 6 = 144$$
$$144 \times 8 = 1152$$
$$1152 \times 10 = 11520$$

80. (c)

$$64 \times 2.5 = 160$$
$$160 \times 2.5 = 400$$
$$400 \times 2.5 = 1000$$
$$1000 \times 2.5 = 2500$$
$$2500 \times 2.5 = 6250$$

81. (b)

$$1 + 9^3 = 730$$
$$730 + 7^2 = 779$$
$$779 + 5^3 = 904$$
$$904 + 3^2 = 913$$
$$913 + 1^3 = 914$$

82. (d)

$$64 \times 0.5 = 32$$
$$32 \times 1.5 = 48$$
$$48 \times 2.5 = 120$$
$$120 \times 3.5 = 420$$
$$420 \times 4.5 = 1890$$

83. (b)

$$2 + 6^3 = 218$$
$$218 + 7^3 = 561$$
$$561 + 8^3 = 1073$$
$$1073 + 9^3 = 1802$$
$$1802 + 10^3 = 2802$$

84. (d)

$$6 \times 3 - 3 = 15$$
$$15 \times 3 - 3 = 42$$
$$42 \times 3 - 3 = 123$$
$$123 \times 3 - 3 = 366$$
$$366 \times 3 - 3 = 1095$$

85. (a)

$$20 \times 3 + 3 = 63$$
$$63 \times 3 + 3 = 192$$
$$192 \times 3 + 3 = 579$$
$$579 \times 3 + 3 = 1740$$
$$1740 \times 3 + 3 = 5223$$

86. (d)

$$4 \times 1 + 1 = 5$$
$$5 \times 3 + 3 = 18$$
$$18 \times 5 + 5 = 95$$
$$95 \times 7 + 7 = 672$$
$$672 \times 9 + 9 = 6057$$

87. (a)

$$2592 \times \frac{1}{3} = 864$$
$$864 \times \frac{2}{3} = 576$$
$$576 \times \frac{3}{3} = 576$$
$$576 \times \frac{4}{3} = 768$$
$$768 \times \frac{5}{3} = 1280$$

88. (d)

$$15 \times 3 + 1 = 46$$
$$46 \times 3 + 1 = 139$$
$$139 \times 3 + 1 = 418$$
$$418 \times 3 + 1 = 1255$$
$$1255 \times 3 + 1 = 3766$$

89. (c)

$$18 \times 5 + 2 = 92$$
$$92 \times 4 + 2 = 370$$
$$370 \times 3 + 2 = 1112$$
$$1112 \times 2 + 2 = 2226$$
$$2226 \times 1 + 2 = 2228$$

90. (b)

$$18 \times 1 + 1 = 19$$
$$19 \times 2 + 2 = 40$$
$$40 \times 3 + 3 = 123$$
$$123 \times 4 + 4 = 496$$
$$496 \times 5 + 5 = 2485$$

91. (b)

$$7 \times 2 = 14$$
$$14 \times 3 = 42$$
$$42 \times 4 = 168$$
$$168 \times 5 = 840$$
$$840 \times 6 = 5040$$

92. (c)

$$12 + 12 = 24$$
$$24 + 24 = 48$$

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$$\begin{aligned}48 + 48 &= 96 \\96 + 96 &= 192 \\192 + 192 &= 384\end{aligned}$$

93. (b)

$$\begin{aligned}4^2 - 1 &= 15 \\7^2 - 1 &= 48 \\10^2 - 1 &= 99 \\13^2 - 1 &= 168 \\16^2 - 1 &= 255 \\19^2 - 1 &= 360\end{aligned}$$

94. (a)

$$\begin{aligned}23 \times 2 + 2 &= 48 \\48 \times 2 + 2 &= 98 \\98 \times 2 + 2 &= 198 \\198 \times 2 + 2 &= 398 \\398 \times 2 + 2 &= 798\end{aligned}$$

95. (c)

$$\begin{aligned}32 \times 0.5 &= 16 \\16 \times 1.5 &= 24 \\24 \times 3.5 &= 84 \\84 \times 6.5 &= 546 \\546 \times 10.5 &= 5733\end{aligned}$$

96. (a)

$$\begin{aligned}11^2 - 8 &= 113 \\10^2 - 7 &= 93 \\9^2 - 6 &= 75 \\8^2 - 5 &= 59 \\7^2 - 4 &= 45 \\6^2 - 3 &= 33\end{aligned}$$

97. (a)

$$\begin{aligned}143 - 17 &= 126 \\126 - 19 &= 107 \\107 - 23 &= 84 \\84 - 29 &= 55 \\55 - 37 &= 18\end{aligned}$$

98. (b)

$$\begin{aligned}12 + 2^3 &= 20 \\20 - 3^3 &= -7 \\-7 + 4^3 &= 57 \\57 - 5^3 &= -68 \\-68 + 6^3 &= 148\end{aligned}$$

99. (d)

$$\begin{aligned}8 \times 2 - 1 &= 15 \\15 \times 2 - 2 &= 28 \\28 \times 2 - 3 &= 53\end{aligned}$$

$$\begin{aligned}53 \times 2 - 4 &= 102 \\102 \times 2 - 5 &= 199\end{aligned}$$

100. (d)

$$\begin{aligned}15 + 5^2 &= 40 \\40 + 6^2 &= 76 \\76 + 7^2 &= 125 \\125 + 8^2 &= 189 \\189 + 9^2 &= 270\end{aligned}$$