The Winners Institute

Reasoning

Missing Number

Practice Sheet
Basic to High Level

Founder - Aditya Patel Sir

SBI PO & LIC AAO
(2013- Batch) Selected

Call - 9009335533

Missing Number - Practice Sheet

निम्नलिखित प्रश्नों में उस संख्या का चयन करें जिसे दिए गए विकल्पों में से प्रश्न चिह्न (?) के स्थान पर रखा जा सकता है।

In the following questions, select the number which can be placed at the sign of question mark (?) from the given alternatives.

1.

8	3
2	22

4	4
5	11

5	6
5	?

(a) 28　　　　(b) 25
(c) 30　　　　(d) 32

2.

8	6
96	2

15	2
60	2

?	5
120	6

(a) 3　　　　(b) 4
(c) 8　　　　(d) 14

3.
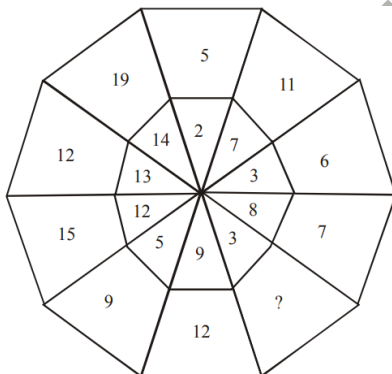
(a) 25　　　　(b) 22
(c) 27　　　　(d) 28

4.

48	30	40
24	15	20
72	45	?

(a) 50　　　　(b) 70

5.

(c) 60　　　　(d) 80

2	5	625
1	3	169
1	1	?

(a) 235　　　　(b) 121
(c) 432　　　　(d) 226

6.

5	12	17
15	13	8
10	69	47
65	87	?

(a) 85　　　　(b) 87
(c) 89　　　　(d) 83

7.

18	25	32
12	14	16
3	?	4
72	112	128

(a) 2　　　　(b) 3
(c) 4　　　　(d) 5

8.

3	4	2	23
7	2	3	41
8	2	3	?

(a) 25　　　　(b) 37
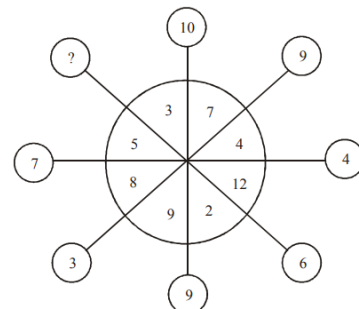(c) 43　　　　(d) 47

9.
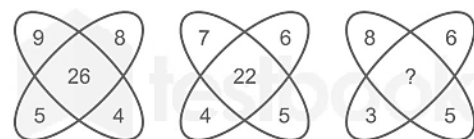
(a) 26　　　　(b) 22
(c) 23　　　　(d) 21

10.

(a) 19　　　　(b) 16

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(c) 12   (d) 20

11.
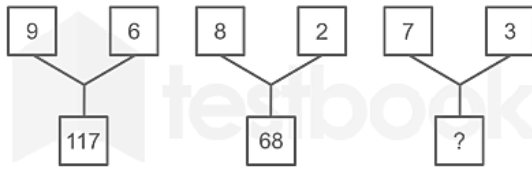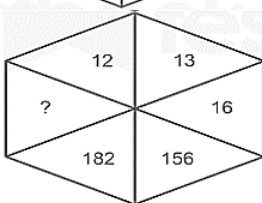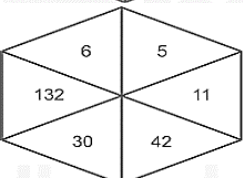
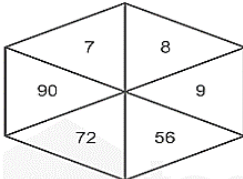| 9	6		8	2		7	3

117   68   ?

(a) 48   (b) 52
(c) 55   (d) 58

12.

First hexagon: 7, 8, 90, 9, 72, 56

Second hexagon: 6, 5, 132, 11, 30, 42

Third hexagon: 12, 13, ?, 16, 182, 156

(a) 274   (b) 272
(c) 300   (d) 280

13.

Circle segments: ?, 1, 720, 1, 120, 2, 24, 6

(a) 1000   (b) 560
(c) 4320   (d) 5040

14.

Triangle 1: 9, 8, 65, 7

Triangle 2: 10, 8, ?, 3

(a) 31   (b) 64
(c) 34   (d) 20

15.

Pyramid:
?
24 28
11 13 15
5 6 7 8
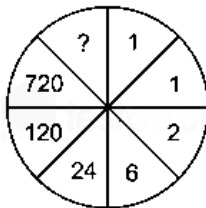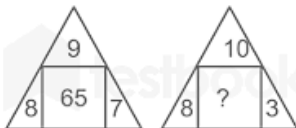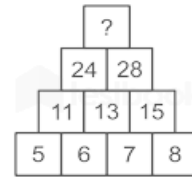
(a) 48   (b) 52
(c) 50   (d) 46

16.

5	6	7	8
10	18	21	40
7	9	10	?

(a) 13   (b) 11
(c) 20   (d) 15

17.

9	28	19
6	?	14
12	52	40

(a) 20   (b) 43
(c) 87   (d) 18

18.

2	6	18
4	10	30
3	8	?

(a) 24   (b) 36
(c) 17   (d) 30

19.

8	(14)	15
13	(18)	22
21	(?)	37

(a) 33   (b) 42
(c) 14   (d) 32

20.

3	17		2	16		6	13
11	4		10	7		15	?

(a) 1   (b) 6
(c) 7   (d) 0

21.

7	6	3
2	5	1
8	9	4
115	273	?

(a) 14   (b) 15
(c) 16   (d) 18

22.

?	105	96
13	15	12
5	7	8

(a) 9   (b) 201
(c) 65   (d) 101

23.

20	72

2	3	6

90	110

3	7	4

56	?

1	7	6

(a) 112   (b) 144
(c) 156   (d) 186

24.

23	?	12
6	13	7
138	117	84

(a) 9   (b) 13
(c) 17   (d) 15

25.

12	13	156
14	?	154
15	13	195

(a) 11   (b) 16
(c) 21   (d) 31

26.

18	90	5
13	143	11
7	?	5

(a) 12   (b) 2
(c) 53   (d) 35

27.

10	4	2	12
7	?	3	15
8	5	1	3

(a) 9   (b) 1
(c) 25   (d) 2

28.

	2	
1	41	5
	3	

	3	
4	159	6
	2	

	7	
5	?	3
	2	

(a) 120   (b) 227
(c) 60   (d) 144

29.

336	170	748
523	78	349
431	?	328

(a) 33   (b) 34
(c) 36   (d) 37

30.

3	2	625
5	3	4096
4	2	?

(a) 216   (b) 1024
(c) 1296   (d) 2024

31.

8	6
96	2

15	2
60	2

?	5
120	6

(a) 3   (b) 4
(c) 8   (d) 14

32.

3	10	6	186
9	5	3	138
5	7	1	36
3	2	5	?

(a) 35   (b) 42
(c) 45   (d) 95

33.

3	2
5	4
1	7

1	2
7	6
4	2

2	1
3	11
1	?

(a) 2   (b) 4
(c) 6   (d) 8

34.

45	11	1
12	0	1
57	11	?

(a) 0   (b) 68
(c) 2   (d) 10

35.

	3	
4	22	5
	2	

	2	
1	44	6
	7	

	7	
8	?	2
	5	

(a) 54   (b) 60
(c) 62   (d) 66

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36.

5	3	125
10	4	10000
2	5	?

(a) 80   (b) 7
(c) 10   (d) 32

37.

3	7
2	4

8	3
1	7

1	6
2	?

(a) 2   (b) 7
(c) 14   (d) 28

38.

116	94	135
21	?	87
95	47	48

(a) 48   (b) 47
(c) 144   (d) 94

39.

13	7	17
17	23	19
221	?	323

(a) 30   (b) 102
(c) 29   (d) 161

40.

	3	
2	31	1
	5	

	4	
2	145	6
	3	

	2	
1	?	7
	5	

(a) 43   (b) 49
(c) 59   (d) 71

41.

Circle 1: 20, 9, 121
Circle 2: 24, 11, 169
Circle 3: 32, 17, ?

(a) 125   (b) 175
(c) 225   (d) 250

42.

	3	
1	60	4
	5	

	7	
6	84	1
	2	

	10	
3	?	3
	1	

(a) 90   (b) 12
(c) 48   (d) 16

43.

5	6	7
4	5	?
3	4	5
60	120	140

(a) 5   (b) 6
(c) 7   (d) 4

44.

3	1	4
5	4	7
2	8	?
38	81	74

(a) 9   (b) 6
(c) 3   (d) 7

45.

Star: 3, 96, 6, 48, 12, ?

(a) 22   (b) 18
(c) 26   (d) 24

46.

Square with diagonals: 7, 20, 10, 19, ?, 13

(a) 29   (b) 39
(c) 31   (d) 41

47.

Star: 2, 1, 3, 12, ?, 4, 6
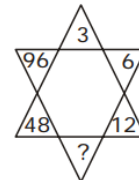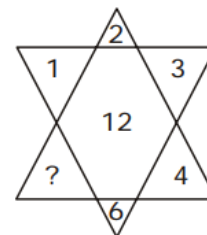
(a) 8   (b) 1
(c) 12   (d) 6

48.

4	8	16	32
5	15	?	135
6	24	96	384

(a) 32   (b) 45

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(c) 80   (d) 30

49.
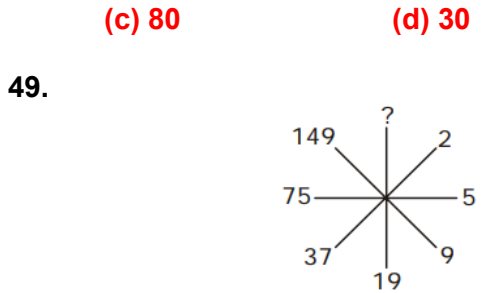
(a) 298   (b) 299
(c) 499   (d) 199

50.

12	8	4
8	4	12
4	12	8
100	44	?

(a) 56   (b) 48
(c) 38   (d) 36

51.

5	4	3
6	5	4
7	6	5
23	14	?

(a) 23   (b) 17
(c) 7   (d) 12

52.
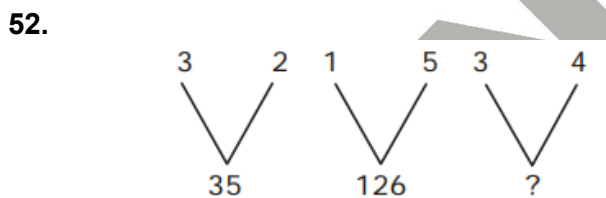
(a) 90   (b) 91
(c) 103   (d) 75

53.

5	4		3	8		9	4
20	9		24	11		?	13

(a) 36   (b) 117
(c) 52   (d) 26

54.

15	5	7	10
64	4	5	?
91	?	9	22

(a) 21, 7   (b) 12, 4
(c) 24, 8   (d) 35, 5

55.

44	49	37
52	?	41
58	35	53

(a) 66   (b) 55
(c) 77   (d) 46

56.

28	5	2	46
35	8	5	?
22	?	7	112

(a) 135, 6   (b) 126, 4
(c) 124, 8   (d) 135, 5

57.

38	54	61	79
21	?	12	24
19	09	14	?

(a) 18, 46   (b) 28, 51
(c) 42, 62   (d) 18, 44

58.

11	24	13	?
8	12	10	10
16	9	?	13

(a) 11, 13   (b) 12, 20
(c) 22, 12   (d) 9, 13

59.

7	6	4	5
10	9	5	4
5	8	6	?
57	78	34	25

(a) 5   (b) 6
(c) 4   (d) 7

60.

36	6	9	15
88	11	9	?
120	?	6	18

(a) 54, 41   (b) 17, 82
(c) 17, 10   (d) 96, 13

61.

5	3	6
7	20	?
9	21	17
38	?	47

(a) 43, 32   (b) 55, 65
(c) 43, 48   (d) 43, 55

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62.

7	4	3	?	31
8	3	5	4	52
9	3.5	2	4	?

(a) 2 & 5   (b) 4 & 40
(c) 2.5 & 24   (d) 2.5 & 32

63.

(a) 20160   (b) 20600
(c) 21060   (d) 23040

64.

(a) 75   (b) 39
(c) 45   (d) 120

65.

(a) 22   (b) 35
(c) 25   (d) 30

66.

5	4	3	?	23
6	2	5	4	38
12	3	4	1	?

(a) 2 & 51   (b) 4 & 40
(c) 2 & 10   (d) 8 & 25

67.

6	9	8
8	?	7
6	4	?
42	41	50

(a) 3 & 5   (b) 7 & 8

(c) 5 & 6   (d) 2 & 8

68.

6	8	2	20
7	2	4	30
8	7	6	?
5	5	9	50

(a) 55   (b) 40
(c) 60   (d) 50

69.

21	6	41
36	?	11
18	12	22

(a) 8   (b) 9
(c) 25   (d) 10

70.

228	66	96
202	?	162

(a) 52   (b) 20
(c) 25   (d) 40

71.

(a) 48   (b) 143
(c) 58   (d) 128

72.

(a) 117   (b) 100
(c) 78   (d) 63

73.

(a) 82   (b) 100
(c) 68   (d) 64

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74.
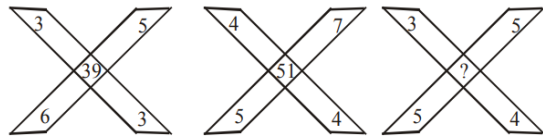
(a) 47   (b) 45
(c) 37   (d) 35
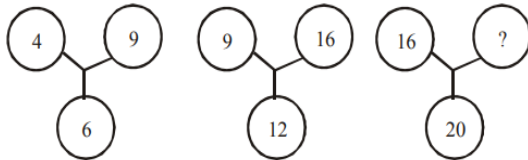
75.

(a) 60   (b) 50
(c) 25   (d) 40

76.

(a) 6   (b) 8
(c) 10   (d) 14

77.

(a) 2   (b) 9
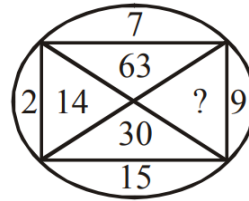(c) 12   (d) 19

78.

(a) 10   (b) 11
(c) 12   (d) 13

79.
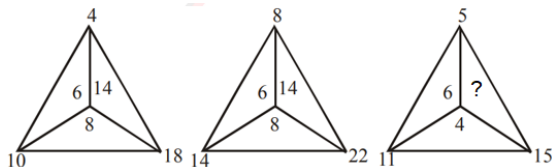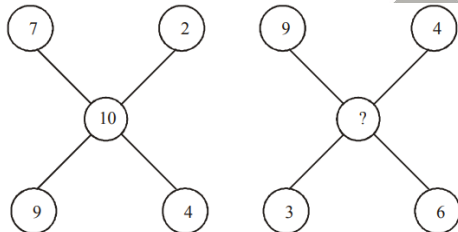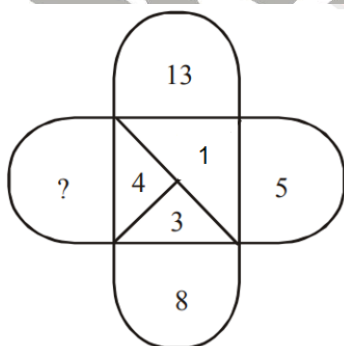
(a) 33   (b) 145
(c) 135   (d) 18

80. यदि 6+9 = 315, 5+8 = 313, 4+7 = 311, और 3+6 = 309, तो 1+4 =?

If 6+9 = 315, 5+8 = 313, 4+7 = 311, and 3+6 = 309, then what does 1+4 =?
(a) 305   (b) 145
(c) 135   (d) 35

Missing Number - Practice Sheet

ANSWERS

No.	Ans	No.	Ans	No.	Ans	No.	Ans	No.	Ans
1.	(b)	2.	(b)	3.	(b)	4.	(c)	5.	(b)
6.	(c)	7.	(b)	8.	(d)	9.	(b)	10.	(c)
11.	(d)	12.	(b)	13.	(d)	14.	(c)	15.	(b)
16.	(a)	17.	(a)	18.	(a)	19.	(d)	20.	(a)
21.	(b)	22.	(c)	23.	(c)	24.	(a)	25.	(d)
26.	(d)	27.	(d)	28.	(b)	29.	(c)	30.	(c)
31.	(b)	32.	(a)	33.	(b)	34.	(c)	35.	(d)
36.	(d)	37.	(c)	38.	(b)	39.	(d)	40.	(d)
41.	(c)	42.	(a)	43.	(d)	44.	(c)	45.	(d)
46.	(b)	47.	(c)	48.	(b)	49.	(b)	50.	(a)
51.	(c)	52.	(b)	53.	(a)	54.	(a)	55.	(c)
56.	(a)	57.	(d)	58.	(c)	59.	(a)	60.	(c)
61.	(d)	62.	(d)	63.	(a)	64.	(b)	65.	(d)
66.	(a)	67.	(c)	68.	(a)	69.	(b)	70.	(b)
71.	(a)	72.	(c)	73.	(b)	74.	(c)	75.	(c)
76.	(c)	77.	(a)	78.	(c)	79.	(c)	80.	(a)

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Solution

1. **(b)**
The method followed here is,
1st number of the first row × 2nd number of first row -1st number of the second row = 2nd number of the second row.
→ 8 × 3 - 2 = 22
→ 4 × 4 - 5 = 11
Same method will be followed to find out the missing number:
→ 5 × 6 - 5 = ?
→ 30 - 5 = 25
Hence, missing number is 25.

2. **(b)**
The method followed here is,
1st number of the first row × 2nd number of first row × 2nd number of the second row = 1st number of the second row.
→ 8 × 6 × 2 = 96
→ 15 × 2 × 2 = 60
Same method will be followed to find out the missing number:
→ ? × 5 × 6 = 120
→ ? = 120/30 → 4
Hence, missing number is 4.

3. **(b)**
In opposite segments, alternate pairs of digits total the same.
19 + 3 = 14 + 8.

4. **(c)**
Working in columns,
1st column:
→ 48 ÷ 2 = 24 × 3 = 72
2nd column:
→ 30 ÷ 2 = 15 × 3 = 45
3rd column:
→ 40 ÷ 2 = 20 × 3 = 60
Hence, the required number is 60.

5. **(b)**
The pattern followed here is:
$25^2 = 625$
$13^2 = 169$
So, $11^2 = 121$
Thus, 121 is the correct answer.

6. **(c)**
The given logic is as follows:
(Row 1 × Row 2) – Row 3 = Row 4,
5 × 15 = 75 – 10 = 65
12 × 13 = 156 – 69 = 87
17 × 8 = 136 – 47 = 89
Hence, the missing number is 89.

7. **(b)**
The logic followed here is:
1st Term × 2nd Term ÷ 3rd Term = 4th erm
(18 × 12) ÷ 3 = 216 ÷ 3 = 72
(32 × 16) ÷ 4 = 512 ÷ 4 = 128
Similarly,
(24 × 14) ÷ 3 = 336 ÷ 3 = 112
Hence, the missing number is '3'.

8. **(d)**
The pattern followed here is;
1st row → 3 × 4 × 2 = 24 - 1 = 23,
2nd row → 7 × 2 × 3 = 42 - 1 = 41,
Similarly,
3rd row → 8 × 2 × 3 = 48 - 1 = 47.
Hence, 47 is the correct answer.

9. **(b)**
The pattern followed here is:
→ (9 + 4) + (8 + 5) = 26
→ (7 + 5) + (6 + 4) = 22
Similarly, (8 + 5) + (6 + 3) = 22
Hence, answer is '22'.

10. **(c)**
The outer number added to its two connected numbers always total 20. For example:
3 + 7 + 10 = 20, 7 + 4 + 9 = 20, etc.

11. **(d)**
1) 9 and 6 = $9^2 + 6^2$ = 81 + 36 = 117
2) 8 and 2 = $8^2 + 2^2$ = 64 + 04 = 68
3) 7 and 3 = $7^2 + 3^2$ = 49 + 09 = 58
Thus, the answer is 58.

12. **(b)**
The logic followed in the given figures is as follow,

Missing Number - Practice Sheet
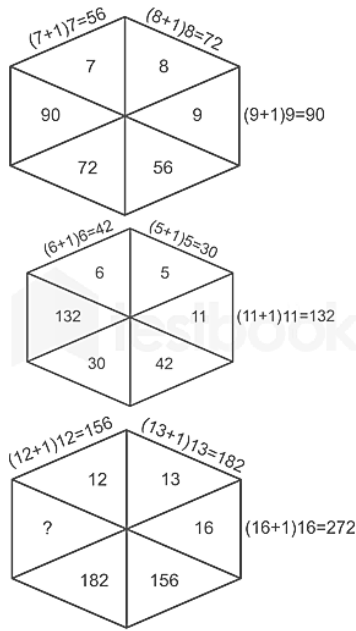
Thus, 272 is the correct answer.

13. **(d)**
The pattern used here is the factorial of whole numbers. It is written in clock wise direction starting from 1 i.e.
0! = 1
1! = 1
2! = 2
3! = 6
4! = 24
5! = 120
6! = 720
7! = 5040
Hence, 5040 is the correct answer.

14. **(c)**
In diagram I:
8 × 7 + 9 = 65
Similarly,
In diagram II:
8 × 3 + 10 = 34
Thus the missing number is 34.

15. **(b)**
The pattern followed here is,
Third row: 5 + 6 → 11, 6 + 7 → 13, 7 + 8 → 15,
Second row: 11 + 13 → 24, 13 + 15 → 28,
Similarly, first row: 24 + 28 → 52.
Hence, answer is 52.

16. **(a)**
→ 5 × 2 = 10 ; 5 + 2 = 7
→ 6 × 3 = 18 ; 6 + 3 = 9
→ 7 × 3 = 21 ; 7 + 3 = 10
→ 8 × 5 = 40 ; 8 + 5 = 13
Missing number is "13".

17. **(a)**
Here the pattern followed in each column is:
2nd number - 1st number = 3rd number
In column 1 → 28 - 9 = 19
In column 3 → 52 - 12 = 40
Likewise;
In column 2 → 20 - 6 = 14

18. **(a)**
Logic:-
→ **(1st Column × 2) + 2 = 2nd Column;**
(2nd Column × 2) + 2nd Column = 3rd Column
→ **(2 × 2) + 2 = 6, (6 × 2) + 6 = 18**
→ **(4 × 2) + 2 = 10, (10 × 2) + 10 = 30**
→ **(3 × 2) + 2 = 8, (8 × 2) + 8 = 24**
So, ? = 24.
Alternate solution:
(2 + 4) ÷ 2 = 3
(6 + 10) ÷ 2 = 8
(18 + 30) ÷ 2 = 24
Hence, Option (A).

19. **(d)**
8 + 13 = 21
15 + 22 = 37
Likewise,
14 + 18 = 32
Hence, 32 is the missing number

20. **(a)**
3+17+4+11=35
2+16+10+7=35
So, 6+13+15+1=35
So, 1 is correct choice.

21. **(b)**
7 × 2 × 8 + 3 = 115
6 × 5 × 9 + 3 = 273
Similarly, 3 × 1 × 4 + 3 = 15

22. **(c)**
15 × 7 =105
12 × 8 = 96

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13 × 5 =65

23. **(c)**
(2 + 3)× [(2 + 3)-1] = 20
(3 + 6)× [(3 + 6)-1] = 72
(3 + 7)× [(3 + 7)-1] = 90
(7 + 4)× [(7 + 4)-1] = 110
(1 + 7)× [(1 + 7)-1] = 56
(7 + 6)× [(7 + 6)-1] = 156

24. **(a)**
Here, 23×6=138. So,12×7=84.

25. **(d)**
12 × 13 = 156
14 × 11 = 154
15 × 13 = 195

26. **(d)**
18 × 5 = 90
13 × 11 = 143
7 × 5= 35

27. **(d)**
(10 × 2) – (4 × 2) =12
(8 × 1) – (5 × 1) =3
(7 × 3) – (2 × 3) =15

28. **(b)**
(1×2×5×3) + (1+2+5+3) = 41
(4×3×6×2) + (4+3+6+2) = 159
(5×7×3×2) + (5+7+3+2) = 227

29. **(c)**
(7 × 4 × 8) – (3 × 3 × 6) =170
(3 × 4 × 9) – (5 × 2 × 3) =78
(3 × 2 × 8) – (4 × 3 × 1) =36

30. **(c)**
$3+2=5^4=625$
$5+3=8^4=4096$
$4+2=6^4=1296$

38. **(b)**
8 × 6 × 2 = 96
15 × 2 × 2 = 60
4 × 5 × 6 = 120

32. **(a)**
(3 × 10 × 6) + 6 = 186
(9 × 5 × 3) + 3 = 138
(5 × 7 × 1) + 1 = 36

(3 × 2 × 5) + 5 = 35

33. **(b)**
3+2+5+4+1+7=22
1+2+7+6+4+2=22
2+1+3+11+1+4=22

34. **(c)**
Adding the values in columns we get 1+1 = 2

35. **(d)**
(4×3)+(2×5)=22
(1×2)+(7×6)=42
(8×7)+(5×2)=22

36. **(d)**
$5^3=125$
$10^4=10000$
$2^5=3$

37. **(c)**
7×3×2×4=168, 8×3×1×7=168
Similarly, 1×6×2×14=168.
Hence 14 is the correct answer.

38. **(b)**
95+21=116
48+87=135
47+47=94

39. **(d)**
13 × 17 =221
7 × 23 =161
17 × 19 =323

40. **(d)**
The pattern is
(3×2) × (5×1) +1 = 31
(4×2) × (3×6) +1 = 145
(2×1) × (5×7) +1 = 71

41. **(c)**
Explanation:
$(20 – 9)^2 = 121$
$(24 – 11)^2 = 169$
$(32 – 17)^2 = 225$

42. **(a)**
1 × 3 × 4 × 5 = 60
6 × 7 × 1 × 2 = 84
3 × 10 × 3 × 1 = 90

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43. **(d)**
$5 \times 4 \times 3 = 60$
$6 \times 5 \times 4 = 120$
$7 \times ? \times 5 = 140$
$? = 4$

44. **(c)**
$3^2 + 5^2 + 2^2 = 38$
$1^2 + 4^2 + 8^2 = 81$
$4^2 + 7^2 + ?^2 = 74$
$? = 3$

45. **(d)**
$3 \times 2 = 6$; $6 \times 2 = 12$;
$12 \times 2 = 24$; $24 \times 2 = 48$

46. **(b)**
$7 \times 2 - 1 = 13$
$10 \times 2 - 1 = 19$
$20 \times 2 - 1 = 39$

47. **(c)**
$2 \times 6 = 12$
$3 \times 4 = 12$
$1 \times ? = 12$
$? = 12$

48. **(b)**
First Row
$4 \times 2 = 8$
$8 \times 2 = 16$
$16 \times 2 = 32$
Second Row
$5 \times 3 = 15$
$15 \times 3 = 45$
$45 \times 3 = 135$
Third Row
$6 \times 4 = 24$
$24 \times 4 = 96$
$96 \times 4 = 384$

49. **(b)**
$2 \times 2 + 1 = 5$
$5 \times 2 - 1 = 9$
$9 \times 2 + 1 = 19$
$19 \times 2 - 1 = 37$
$37 \times 2 + 1 = 75$
$75 \times 2 - 1 = 149$
$149 \times 2 + 1 = 299$

50. **(a)**
The larger number is the sum of the two smaller numbers in each row.
First row
$8 + 4 = 12$
Second row
$8 + 4 = 12$
Third row
$4 + 8 = 12$
Fourth row
$100 - 44 = 56$

51. **(c)**
$5 \times 6 - 7 = 23$
$4 \times 5 - 6 = 14$
$3 \times 4 - 5 = 7$

52. **(b)**
$(3)^3 + (2)^3 = 27 + 8 = 35$
$(1)^3 + (5)^3 = 1 + 125 = 126$
$(3)^3 + (4)^3 = 27 + 64 = 91$

53. **(a)**
The sum of the upper two numbers gives the lower right number while their product is equal to the lower-left number.
First arrangement
$5 + 4 = 9$ and $5 \times 4 = 20$
Second arrangement
$3 + 8 = 11$ and $3 \times 8 = 24$
Third arrangement
$9 + 4 = 13$ and $9 \times 4 = 36$

54. **(a)**
The numbers in the matrix follow the below mentioned logic:
$15 \div 5 + 7 = 10$
$64 \div 4 + 5 = 21$
$91 \div ? + 9 = 22$
$? = 91 \div 13$
$= 7$
Hence, option A is correct.

55. **(c)**
$44 - 37 = 7 \times 7 = 49$
$58 - 53 = 5 \times 7 = 35$
Similarly,
$52 - 41 = 11 \times 7 = 77$.
Hence, there must be 77 in place of a question mark.
Therefore, option C is correct.

56. **(a)**
The numbers in the matrix follow the below mentioned logic: (irrespective of the rules of BODMAS)
$28 - 5 \times 2 = 46$
$35 - 8 \times 5 = 135$
$22 - ? \times 7 = 112$
$22 - ? = 112 \div 7 = 6$
Hence, option A is correct.

57. **(d)**
The numbers in the matrix follow the below mentioned logic:
The value at the middle row is the sum of digits of top and bottom rows.
For first column,
Value in the top row =38, Value in the bottom row = 19
Sum of digits = $3 + 8 + 1 + 9 = 21$, is the value in the middle row.
For second column,
Thus $5 + 4 + 0 + 9 = 18$ is the required value.
For third column,
Thus, $6 + 1 + 1 + 4 = 12$
For fourth column,
Thus, $7 + 9 + x = 24$
$24 - 16 = x$
$= 8$ is the required value.
The combination where sum of digits comes to 8 should be the correct match.
Only option C and D are such where sum of the digits of the second number comes to 8, but in option C the first value doesn't match with 18.
In option D, the first value is 18 and the sum of digits of second value is $4 + 4 = 8$.
Hence, option D is correct.

58. **(c)**
The numbers in the matrix follow the below mentioned logic:
$11 + 24 - 13 = X$
$8 + 12 - 10 = 10$
$16 + 9 - ? = 13$
Solving this we get:
$35 - 13 = 22$
$16 + 9 - 12 = 13$
Hence, option C is correct.

59. **(a)**
Pattern of the missing element

$10 \times 5 + 7 = 57$,
$9 \times 8 + 6 = 78$,
$5 \times 6 + 4 = 34$,
$4 \times 5 + 5 = 25$
Hence, option A is correct.

60. **(c)**
The numbers in the matrix follow the below mentioned logic:
$36 \div 6 + 9 = 15$
$88 \div 11 + 9 = 17$
$120 \div ? + 6 = 18$
$? = 120 \div 12$
$= 10$
Hence, option C is correct.

61. **(d)**
Pattern of the following table is:
$5 \times 9 - 7 = 45 - 7 = 38$
Similarly,
$21 \times 3 - 20 = 63 - 20 = 43$
$17 \times 6 - 55 = 47$

5	3	6
7	20	55
9	21	17
38	43	47

Hence, option D is correct.

62. **(d)**
The pattern of the numbers is:
$7 \times 3 + 4 \times 2.5 = 31$
$8 \times 5 + 3 \times 4 = 52$
$9 \times 2 + 3.5 \times 4 = 32$
Hence, option D is correct.

63. **(a)**
$4 \times 1 = 4$,
$4 \times 2 = 8$,
$8 \times 3 = 24$,
$24 \times 4 = 96$,
$96 \times 5 = 480$,
$480 \times 6 = 2880$,
$2880 \times 7 = 20160$
Hence, option A is correct.

64. **(b)**
Sum = $75 + 105 = 180$ Now, $141 + ? = 180$
$? = 180 - 141 = 39$
Hence, option B is correct.

65. **(d)**
$12 + 15 = 27$,

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15 + 11 = 26,
11 + 18 = 29,
18 + 12 = 30
Hence, option D is correct.

66. (a)
The pattern of the numbers is:
5 × 3 + 4 × 2 = 23   6 × 5 + 2 × 4 = 38
12 × 4 + 3 × 1 = 51
Hence, option (A) is correct.

67. (c)
6 × 8 – 6 = 42
9 × 5 – 4 = 41
8 × 7 – 6 = 50
Hence, option C is correct.

68. (a)
In this formation, the first number in the first column is getting multiplied by the number in the third column and the resultant number is being added to the number in the second column to give the number in the fourth column.
First row 6 × 2 + 8 = 20,
Second row 7 × 4 + 2 = 30,
Fourth row 5 × 9 + 5 = 50
Therefore, third row 8 × 6 + 7 = 55,
Hence, option A is correct.

69. (b)
The pattern of the given numbers is
2 × 1 + 4 × 1 = 6,
3 × 6 + 1 × 1 = 19,
1 × 8 + 2 × 2 = 12
Therefore, there must be 19 in place of question mark.
Hence, option B is correct.

70. (b)
As, $\frac{228 - 96}{2} = \frac{132}{2}$ = 66
Similarly, $\frac{202 - 162}{2} = \frac{40}{2}$ = 20
Hence, option B is correct.

71. (a)
(9 – 4) × (7 + 6) = 5 × 13 = 65
Similarly,
(15 – 5) × (2 + 6) = 10 × 8 = 80
So, (13 – 11) × (16 + 8) = 2 × 24 = 48
Hence, option A is correct.

72. (c)
In the first figure 9 × 10 – 4 × 8 = 58
∴ The missing figure = 15 × 10 – 9 × 8 = 78

73. (b)
Required number = $(2 + 8)^2$ = 100.

74. (c)
Fig 1 : 3 × 3 + 6 × 5 = 39
Fig 2 : 4 × 4 + 5 × 7 = 51
∴ ? = 3 × 4 + 5 × 5 = 37

75. (c)
First figure = $\sqrt{4 \times 9}$ = 6
second figure = $\sqrt{9 \times 16}$ = 12
∴ $\sqrt{16 \times ?}$ = 20 i.e, 16 × ? = 400 or ? = 25

76. (c)
Fig 1 : 10 – 4 = 6 ; 18 – 10 = 8 : 18 – 4 = 14
Fig 2 : 14 – 8 = 6 : 22 – 14 = 8 : 22 – 8 = 14
Fig 3 : 11 – 5 = 6 : 15 – 11 = 4 : 15 – 5 = 10

77. (a)
Subtract the sum of the even numbers from the sum of the odd numbers.
7 + 9 = 16   9 + 3 = 12
2 + 4 = 6   4 + 6 = 10
16 – 6 = 10   12 – 10 = 2

78. (c)
The arrangement is: 5 + 3 = 8, 8 + 4 = 12, 12 + 1 = 13.
So, the missing number is 12.

79. (c)
Clearly, we have: 15 × 2 = 30, 2 × 7 = 14, 7 × 9 = 63
So, missing number = 9 × 15 = 135.

80 (a)
9 - 6 = 3 & 9 + 6 = 15 > 315
8 - 5 = 3 & 8 + 5 = 13 > 313
7 - 4 = 3 & 7 + 4 = 11 > 311
6 - 3 = 3 & 6 + 3 = 09 > 309
Similarly,
4 - 1 = 3 & 4 + 1 = 05 > 305