

Pattern Puzzles – Pack 45

Puzzle 1. What number replaces the question mark in the grid?

3	2	11
9	9	31
9	5	?

- A) 35
 B) 50
 C) 17
 D) 51

Puzzle 2. What comes next in the sequence?

10	14	4	3	18	17	8	6	26	20	12	9	?
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- A) 35
 B) 23
 C) 34
 D) 29

Puzzle 3. What comes next in the sequence?

6	39	148	405	906	1771	3144	5193	?
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- A) 8134
 B) 8086
 C) 8110
 D) 5193

Puzzle 4. What number replaces the question mark in the grid?

3	2	11
2	6	17
14	5	?

- A) 6
 B) 45
 C) 46
 D) 36

Puzzle 5. What number replaces the question mark in the grid?

4	2	1
9	7	7
2	12	?

- A) 18
 B) 13
 C) 20
 D) 21

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Puzzle 6. What number replaces the question mark in the grid?

6	1	18
9	1	26
2	9	?

- A) 38
 B) 25
 C) 39
 D) 27

Puzzle 7. What number replaces the question mark in the grid?

6	9	3
18	5	33
4	22	?

- A) 7
 B) 9
 C) 10
 D) 0

Puzzle 8. What comes next in the sequence?

15	4	5	11	17	9	8	17	19	14	11	23	?
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- A) 19
 B) 21
 C) 24
 D) 22

Puzzle 9. What number replaces the question mark in the grid?

4	6	14
8	3	30
16	27	?

- A) 2
 B) 5
 C) 6
 D) 1

Puzzle 10. What comes next in the sequence?

5	5	6	18	31	57	108	198	?
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- A) 364
 B) 363
 C) 367
 D) 365

Answer Key

1. **B) 50**

Row sums are perfect squares: 16, 49, 64.

6. **A) 38**

Row sums are perfect squares: 25, 36, 49.

2. **C) 34**

Four interleaved arithmetic series (period 4):

7. **B) 9**

Column sums are triangular numbers: 28, 36, 45.

3. **C) 8110**

4th differences are all 24 (quartic sequence).

8. **B) 21**

Four interleaved arithmetic series (period 4):

4. **B) 45**

Row sums are perfect squares: 16, 25, 64.

9. **D) 1**

Column sums are triangular numbers: 28, 36, 45.

5. **C) 20**

Column sums are triangular numbers: 15, 21, 28.

10. **D) 365**

Rule: $a(n) = a(n-1) + a(n-2) + a(n-3) + 2$.