Pattern Puzzles — Pack 56

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

1	3	1
7	10	9
2	2	?

A) 12 B) 11 C) 14 D) 5

Puzzle 2. What comes next in the sequence?

11	50	169	440	959	1846	3245	5324	?

A) 8299 B) 8251 C) 8275 D) 5324

Puzzle 3. What comes next in the sequence?

4	3	5	15	26	49	93	171	?

A) 313 B) 319 C) 316 D) 274

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

4	2	10
12	9	28
10	3	?

A) 18 B) 36 C) 52 D) 51

Puzzle 5. What comes next in the sequence?

9	38	133	360	809	1594	2853	4748	?

A) 4748 B) 7441 C) 7489 D) 7465

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Puzzle 6. What comes next in the sequence?

7	15	10	9	15	21	15	16	23	27	20	23	?

A) 29 B) 33 C) 32 D) 31

Puzzle 7. What comes next in the sequence?

13	8	7	14	18	12	12	22	23	16	17	30	?

A) 27 B) 28 C) 20 D) 29

Puzzle 8. What number replaces the question mark in the grid?

6	1	9
8	24	23
7	3	?

A) 5 B) 4 C) 1 D) 0

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

6	8	3
10	14	32
5	6	?

A) 0 B) 3 C) 1 D) 2

Puzzle 10. What comes next in the sequence?

4	6	4	15	26	46	88	161	?

A) 297 B) 296 C) 295 D) 237

Answer Key

1. **B) 11**
Column sums are triangular numbers: 10, 15, 21.

2. **C) 8275**
4th differences are all 24 (quartic sequence).

3. **C) 316**
Rule: a(n) = a(n-1)+a(n-2)+a(n-3)+3.

4. **D) 51**
Row sums are perfect squares: 16, 49, 64.

5. **D) 7465**
4th differences are all 24 (quartic sequence).

6. **D) 31**
Four interleaved arithmetic series (period 4):

7. **B) 28**
Four interleaved arithmetic series (period 4):

8. **B) 4**
Column sums are triangular numbers: 21, 28, 36.

9. **C) 1**
Column sums are triangular numbers: 21, 28, 36.

10. **B) 296**
Rule: a(n) = a(n-1)+a(n-2)+a(n-3)+1.