Pattern Puzzles — Pack 40

Puzzle 1. What comes next in the sequence?

14	2	5	8	21	7	11	10	28	12	17	12	?

A) 33 B) 36 C) 17 D) 35

Puzzle 2. What comes next in the sequence?

11	41	137	365	815	1601	2861	4757	?

A) 7451 B) 7499 C) 4757 D) 7475

Puzzle 3. What number replaces the question mark in the grid?

1	2	6
4	2	10
15	4	?

A) 48 B) 45 C) 38 D) 46

Puzzle 4. What comes next in the sequence?

3	6	5	16	29	52	99	182	?

A) 333 B) 335 C) 337 D) 352

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

5	3	4
5	7	23
5	11	?

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

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Puzzle 6. What comes next in the sequence?

5	6	6	18	31	56	106	194	?

A) 357 B) 391 C) 356 D) 358

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

3	7	9
11	5	18
1	9	?

A) 2 B) 4 C) 0 D) 1

Puzzle 8. What comes next in the sequence?

6	5	3	16	26	47	91	166	?

A) 295 B) 308 C) 304 D) 306

Puzzle 9. What comes next in the sequence?

11	51	179	473	1035	1991	3491	5709	?

A) 8867 B) 8843 C) 5709 D) 8819

Puzzle 10. What comes next in the sequence?

7	33	123	343	783	1557	2803	4683	?

A) 7383 B) 7407 C) 7359 D) 4683

Answer Key

1. **D) 35**
Four interleaved arithmetic series (period 4):

2. **D) 7475**
4th differences are all 24 (quartic sequence).

3. **B) 45**
Row sums are perfect squares: 9, 16, 64.

4. **B) 335**
Rule: a(n) = a(n-1)+a(n-2)+a(n-3)+2.

5. **D) 1**
Column sums are triangular numbers: 15, 21, 28.

6. **A) 357**
Rule: a(n) = a(n-1)+a(n-2)+a(n-3)+1.

7. **D) 1**
Column sums are triangular numbers: 15, 21, 28.

8. **D) 306**
Rule: a(n) = a(n-1)+a(n-2)+a(n-3)+2.

9. **B) 8843**
4th differences are all 24 (quartic sequence).

10. **A) 7383**
4th differences are all 24 (quartic sequence).