

Pattern Puzzles – Pack 24

Puzzle 1. What comes next in the sequence?

9	41	147	399	893	1749	3111	5147	?
---	----	-----	-----	-----	------	------	------	---

- A) 8049 B) 8073 C) 8025 D) 5147

Puzzle 2. What number replaces the question mark in the grid?

1	2	13
6	5	14
9	6	?

- A) 10 B) 34 C) 35 D) 25

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

1	7	11
20	8	23
7	21	?

- A) 13 B) 2 C) 11 D) 12

Puzzle 4. What comes next in the sequence?

9	49	177	471	1033	1989	3489	5707	?
---	----	-----	-----	------	------	------	------	---

- A) 8817 B) 5707 C) 8841 D) 8865

Puzzle 5. What comes next in the sequence?

7	39	147	403	903	1767	3139	5187	?
---	----	-----	-----	-----	------	------	------	---

- A) 8079 B) 8103 C) 8127 D) 5187

Pattern Puzzles – Pack 24

Puzzle 6. What comes next in the sequence?

10	48	166	436	954	1840	3238	5316	?
----	----	-----	-----	-----	------	------	------	---

- A) 8242 B) 8266 C) 5316 D) 8290

Puzzle 7. What comes next in the sequence?

6	29	114	327	758	1521	2754	4619	?
---	----	-----	-----	-----	------	------	------	---

- A) 7326 B) 7278 C) 7302 D) 4619

Puzzle 8. What comes next in the sequence?

8	5	14	2	11	13	21	9	14	21	28	16	?
---	---	----	---	----	----	----	---	----	----	----	----	---

- A) 18 B) 29 C) 22 D) 17

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

9	2	13
1	1	14
18	33	?

- A) 18 B) 9 C) 16 D) 19

Puzzle 10. What comes next in the sequence?

3	3	4	12	21	39	74	136	?
---	---	---	----	----	----	----	-----	---

- A) 253 B) 249 C) 251 D) 234

Answer Key

1. **A) 8049**

4th differences are all 24 (quartic sequence).

6. **B) 8266**

4th differences are all 24 (quartic sequence).

2. **B) 34**

Row sums are perfect squares: 16, 25, 49.

7. **C) 7302**

4th differences are all 24 (quartic sequence).

3. **C) 11**

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

8. **D) 17**

Four interleaved arithmetic series (period 4):

4. **C) 8841**

4th differences are all 24 (quartic sequence).

9. **A) 18**

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

5. **B) 8103**

4th differences are all 24 (quartic sequence).

10. **C) 251**

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