

Pattern Puzzles – Pack 7

Puzzle 1. What comes next in the sequence?

14	8	10	2	22	12	17	10	30	16	24	18	?
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A) 20	B) 39	C) 34	D) 38
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Puzzle 2. What comes next in the sequence?

15	4	13	11	23	9	20	16	31	14	27	21	?
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A) 19	B) 36	C) 40	D) 39
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Puzzle 3. What comes next in the sequence?

3	4	5	15	27	50	95	175	?
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A) 326	B) 277	C) 323	D) 320
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Puzzle 4. What comes next in the sequence?

5	3	2	13	21	39	76	139	?
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A) 257	B) 254	C) 260	D) 237
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Puzzle 5. What number replaces the question mark in the grid?

2	2	21
8	6	22
7	11	?

A) 18	B) 31	C) 32	D) 20
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Puzzle 6. What comes next in the sequence?

6	2	5	15	24	46	87	159	?
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- A) 271 B) 296 C) 294 D) 292

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

2	1	1
7	1	18
1	13	?

- A) 0 B) 2 C) 3 D) 6

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

1	9	9
13	18	7
7	1	?

- A) 12 B) 21 C) 19 D) 20

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

6	1	5
6	3	11
9	24	?

- A) 12 B) 21 C) 20 D) 25

Puzzle 10. What comes next in the sequence?

8	38	142	392	884	1738	3098	5132	?
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- A) 8032 B) 8056 C) 8008 D) 5132

Answer Key

1. **D) 38**

Four interleaved arithmetic series (period 4):

6. **C) 294**

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

2. **D) 39**

Four interleaved arithmetic series (period 4):

7. **B) 2**

Column sums are triangular numbers: 10, 15, 21.

3. **C) 323**

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

8. **D) 20**

Column sums are triangular numbers: 21, 28, 36.

4. **A) 257**

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

9. **C) 20**

Column sums are triangular numbers: 21, 28, 36.

5. **B) 31**

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

10. **A) 8032**

4th differences are all 24 (quartic sequence).