

Pattern Puzzles – Pack 4

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

7	5	9
1	9	24
4	11	?

- A) 53
 B) 19
 C) 40
 D) 39

Puzzle 2. What comes next in the sequence?

2	4	10	26	68	178	466	?
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- A) 1398
 B) 3194
 C) 3193
 D) 754

Puzzle 3. What comes next in the sequence?

2	1	7	17	40	82	158	289	?
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- A) 430
 B) 540
 C) 511
 D) 669

Puzzle 4. What comes next in the sequence?

2	8	22	58	152	398	1042	?
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- A) 3126
 B) 7141
 C) 7142
 D) 1686

Puzzle 5. What comes next in the sequence?

4	2	3	6	7	18	10	54	17	?
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- A) 129
 B) 162
 C) 163
 D) 27

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Puzzle 6. What comes next in the sequence?

3	2	5	6	8	18	13	54	21	?
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|-------|--------|--------|--------|
| A) 34 | B) 162 | C) 163 | D) 158 |
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Puzzle 7. What comes next in the sequence?

2	3	9	21	46	92	174	315	?
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| A) 553 | B) 472 | C) 511 | D) 727 |
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Puzzle 8. What comes next in the sequence?

1	5	14	37	97	254	665	?
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| A) 1076 | B) 4557 | C) 4558 | D) 1995 |
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Puzzle 9. What comes next in the sequence?

3	2	2	4	5	8	7	16	12	?
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|-------|-------|-------|-------|
| A) 32 | B) 35 | C) 33 | D) 19 |
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Puzzle 10. What comes next in the sequence?

3	12	35	80	157	280	471	?
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| A) 768 | B) 640 | C) 767 | D) 599 |
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Answer Key

1. **C) 40**

Row sums are Fibonacci numbers: $F(8)=21$, $F(9)=34$, $F(10)=55$.

6. **B) 162**

Odd positions: Fibonacci-like sequence starting 3, 5.

2. **B) 3194**

Rule: $a(n) = 3 \times a(n-1) - a(n-2)$ (Lucas-type sequence).

7. **A) 553**

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

3. **C) 511**

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

8. **C) 4558**

Rule: $a(n) = 3 \times a(n-1) - a(n-2)$ (Lucas-type sequence).

4. **C) 7142**

Rule: $a(n) = 3 \times a(n-1) - a(n-2)$ (Lucas-type sequence).

9. **A) 32**

Odd positions: Fibonacci-like sequence starting 3, 2.

5. **B) 162**

Odd positions: Fibonacci-like sequence starting 4, 3.

10. **A) 768**

Formula: $1n^3 + 1 \times 2^n$.