

Pattern Puzzles – Pack 2

Puzzle 1. What comes next in the sequence?

1	1	2	5	14	42	132	?
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A) 428	B) 126	C) 429	D) 264
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Puzzle 2. What comes next in the sequence?

3	4	4	12	7	36	11	108	18	?
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A) 271	B) 324	C) 325	D) 29
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Puzzle 3. What comes next in the sequence?

3	3	2	9	5	27	7	81	12	?
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A) 243	B) 249	C) 19	D) 244
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Puzzle 4. What number replaces the question mark in the grid?

1	3	9
6	1	14
6	2	?

A) 13	B) 25	C) 26	D) 34
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Puzzle 5. What comes next in the sequence?

2	5	13	34	89	233	610	?
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A) 4180	B) 4181	C) 1830	D) 987
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Puzzle 6. What number replaces the question mark in the grid?

1	1	3
2	1	5
3	3	?

- A) 6
 B) 10
 C) 2
 D) 7

Puzzle 7. What comes next in the sequence?

2	5	14	42	132	429	1430	?
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- A) 4862
 B) 1287
 C) 4861
 D) 2860

Puzzle 8. What comes next in the sequence?

5	2	3	6	8	18	11	54	19	?
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- A) 163
 B) 162
 C) 30
 D) 173

Puzzle 9. What comes next in the sequence?

4	4	12	25	53	103	192	344	?
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- A) 600
 B) 620
 C) 519
 D) 792

Puzzle 10. What number replaces the question mark in the grid?

1	1	3
2	1	5
2	4	?

- A) 7
 B) 2
 C) 10
 D) 6

Answer Key

1. **C) 429**

These are Catalan numbers: $C(n) = C(n-1) \times (4n-2) / (n+1)$.

6. **D) 7**

Row sums are Fibonacci numbers: $F(5)=5$, $F(6)=8$, $F(7)=13$.

2. **B) 324**

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

7. **A) 4862**

These are Catalan numbers: $C(n) = C(n-1) \times (4n-2) / (n+1)$.

3. **A) 243**

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

8. **B) 162**

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

4. **C) 26**

Row sums are Fibonacci numbers: $F(7)=13$, $F(8)=21$, $F(9)=34$.

9. **A) 600**

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

5. **B) 4181**

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

10. **A) 7**

Row sums are Fibonacci numbers: $F(5)=5$, $F(6)=8$, $F(7)=13$.