

Pattern Puzzles – Pack 5

Puzzle 1. What comes next in the sequence?

3	1	8	18	42	85	163	297	?
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- A) 687 B) 443 C) 619 D) 524

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

2	1	5
1	4	8
5	2	?

- A) 6 B) 14 C) 19 D) 13

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

2	1	5
2	3	8
4	3	?

- A) 14 B) 19 C) 13 D) 6

Puzzle 4. What comes next in the sequence?

2	6	16	42	110	288	754	?
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- A) 1220 B) 5168 C) 2262 D) 5167

Puzzle 5. What comes next in the sequence?

1	4	11	29	76	199	521	?
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- A) 843 B) 3571 C) 1563 D) 3570

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Puzzle 6. What number replaces the question mark in the grid?

2	3	16
1	4	29
12	16	?

- A) 6
 B) 40
 C) 26
 D) 27

Puzzle 7. What comes next in the sequence?

4	3	4	9	8	27	12	81	20	?
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- A) 247
 B) 244
 C) 32
 D) 243

Puzzle 8. What comes next in the sequence?

2	2	2	4	4	8	6	16	10	?
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- A) 16
 B) 32
 C) 25
 D) 33

Puzzle 9. What comes next in the sequence?

4	3	2	6	6	12	8	24	14	?
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- A) 22
 B) 48
 C) 49
 D) 54

Puzzle 10. What comes next in the sequence?

2	2	2	6	4	18	6	54	10	?
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- A) 168
 B) 162
 C) 163
 D) 16

Answer Key

1. **D) 524**

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

6. **D) 27**

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

2. **B) 14**

Row sums are Fibonacci numbers: $F(6)=8$, $F(7)=13$, $F(8)=21$.

7. **D) 243**

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

3. **A) 14**

Row sums are Fibonacci numbers: $F(6)=8$, $F(7)=13$, $F(8)=21$.

8. **B) 32**

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

4. **B) 5168**

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

9. **B) 48**

Odd positions: Fibonacci-like sequence starting 4, 2.

5. **B) 3571**

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

10. **B) 162**

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