

Pattern Puzzles – Pack 1

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

1	1	19
5	10	19
5	9	?

- A) 54
 B) 20
 C) 40
 D) 41

Puzzle 2. What comes next in the sequence?

6	24	70	160	314	560	942	?
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- A) 1280
 B) 1535
 C) 1536
 D) 1198

Puzzle 3. What comes next in the sequence?

4	20	62	144	282	496	814	?
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- A) 1152
 B) 1280
 C) 942
 D) 1279

Puzzle 4. What comes next in the sequence?

2	10	30	68	140	246	406	?
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- A) 616
 B) 539
 C) 635
 D) 464

Puzzle 5. What comes next in the sequence?

2	2	8	19	43	87	166	302	?
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- A) 451
 B) 698
 C) 532
 D) 468

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Puzzle 6. What comes next in the sequence?

5	16	43	96	189	344	599	?
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- A) 768
 B) 1023
 C) 855
 D) 1024

Puzzle 7. What comes next in the sequence?

3	3	3	9	6	27	9	81	15	?
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- A) 24
 B) 243
 C) 263
 D) 244

Puzzle 8. What comes next in the sequence?

3	7	18	47	123	322	843	?
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- A) 5778
 B) 5777
 C) 2529
 D) 1364

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

2	1	5
3	2	8
2	6	?

- A) 12
 B) 5
 C) 18
 D) 13

Puzzle 10. What comes next in the sequence?

1	7	20	53	139	364	953	?
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- A) 1542
 B) 6532
 C) 6531
 D) 2859

Answer Key

1. **D) 41**

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

6. **D) 1024**

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

2. **C) 1536**

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

7. **B) 243**

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

3. **B) 1280**

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

8. **A) 5778**

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

4. **A) 616**

Formula: $n \times \sum \text{primes}(1..n)$.

9. **D) 13**

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

5. **C) 532**

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

10. **B) 6532**

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