

Pattern Puzzles – Pack 3

Puzzle 1. What comes next in the sequence?

2	5	12	27	58	121	248	?
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- A) 502
 B) 503
 C) 255
 D) 496

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

6	4	9
3	4	18
5	7	?

- A) 25
 B) 18
 C) 13
 D) 19

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

5	4	11
7	7	9
8	5	?

- A) 10
 B) 13
 C) 16
 D) 12

Puzzle 4. What comes next in the sequence?

5	17	45	113	293	801	?
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- A) 2284
 B) 2285
 C) 2259
 D) 827

Puzzle 5. What comes next in the sequence?

3	27	115	333	771	1543	2787	?
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- A) 4665
 B) 4031
 C) 4689
 D) 4641

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Puzzle 6. What comes next in the sequence?

3	19	85	261	631	1303	2409	?
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| A) 4081 | B) 3515 | C) 4129 | D) 4105 |
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Puzzle 7. What comes next in the sequence?

4	9	20	43	90	185	376	?
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| A) 759 | B) 752 | C) 383 | D) 758 |
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Puzzle 8. What comes next in the sequence?

10	45	158	421	930	1805	3190	?
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| A) 5229 | B) 4575 | C) 5253 | D) 5277 |
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Puzzle 9. What comes next in the sequence?

9	43	155	417	925	1799	3183	?
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| A) 5221 | B) 4567 | C) 5269 | D) 5245 |
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Puzzle 10. What comes next in the sequence?

7	37	143	397	895	1757	3127	?
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| A) 5173 | B) 4497 | C) 5197 | D) 5149 |
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Answer Key

1. **B) 503**

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

6. **D) 4105**

4th diffs: 24 (constant – quartic sequence).

2. **D) 19**

Row sums form arithmetic sequence: 19, 25, 31.

7. **A) 759**

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

3. **B) 13**

Row sums form arithmetic sequence: 20, 23, 26.

8. **C) 5253**

4th diffs: 24 (constant – quartic sequence).

4. **B) 2285**

Formula: $2n^2 + 3^n$. $n=7$: $98 + 2187 = 2285$.

9. **D) 5245**

4th diffs: 24 (constant – quartic sequence).

5. **A) 4665**

4th diffs: 24 (constant – quartic sequence).

10. **A) 5173**

4th diffs: 24 (constant – quartic sequence).