

Pattern Puzzles – Pack 16

Puzzle 1. What comes next in the sequence?

6	6	2	17	28	50	98	179	?
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|--------|--------|--------|--------|
| A) 327 | B) 333 | C) 300 | D) 330 |
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Puzzle 2. What comes next in the sequence?

3	2	6	12	21	40	74	136	?
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|--------|--------|--------|--------|
| A) 252 | B) 251 | C) 250 | D) 238 |
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Puzzle 3. What comes next in the sequence?

11	48	163	428	939	1816	3203	5268	?
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| A) 8227 | B) 5268 | C) 8179 | D) 8203 |
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Puzzle 4. What comes next in the sequence?

3	5	2	11	19	33	64	117	?
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|--------|--------|--------|--------|
| A) 215 | B) 244 | C) 214 | D) 216 |
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Puzzle 5. What comes next in the sequence?

7	46	165	436	955	1842	3241	5320	?
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|---------|---------|---------|---------|
| A) 5320 | B) 8247 | C) 8295 | D) 8271 |
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Puzzle 6. What number replaces the question mark in the grid?

6	11	12
13	8	10
9	17	?

- A) 24
 B) 14
 C) 23
 D) 20

Puzzle 7. What number replaces the question mark in the grid?

3	6	1
11	11	20
1	4	?

- A) 0
 B) 8
 C) 11
 D) 7

Puzzle 8. What number replaces the question mark in the grid?

4	7	9
9	12	13
2	2	?

- A) 1
 B) 7
 C) 6
 D) 9

Puzzle 9. What comes next in the sequence?

6	12	8	2	14	14	11	9	22	16	14	16	?
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- A) 24
 B) 30
 C) 18
 D) 31

Puzzle 10. What comes next in the sequence?

9	45	167	453	1005	1949	3435	5637	?
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- A) 8777
 B) 8753
 C) 5637
 D) 8729

Answer Key

1. **D) 330**

Rule: $a(n) = a(n-1)+a(n-2)+a(n-3)+3$.

6. **C) 23**

Column sums are triangular numbers: 28, 36, 45.

2. **B) 251**

Rule: $a(n) = a(n-1)+a(n-2)+a(n-3)+1$.

7. **D) 7**

Column sums are triangular numbers: 15, 21, 28.

3. **D) 8203**

4th differences are all 24 (quartic sequence).

8. **C) 6**

Column sums are triangular numbers: 15, 21, 28.

4. **A) 215**

Rule: $a(n) = a(n-1)+a(n-2)+a(n-3)+1$.

9. **B) 30**

Four interleaved arithmetic series (period 4):

5. **D) 8271**

4th differences are all 24 (quartic sequence).

10. **B) 8753**

4th differences are all 24 (quartic sequence).