

Pattern Puzzles – Pack 15

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

9	1	8
3	29	27
16	6	?

- A) 1
 B) 5
 C) 11
 D) 10

Puzzle 2. What comes next in the sequence?

7	46	173	466	1027	1982	3481	5698	?
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- A) 5698
 B) 8855
 C) 8807
 D) 8831

Puzzle 3. What comes next in the sequence?

5	3	5	16	27	51	97	178	?
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- A) 329
 B) 286
 C) 332
 D) 326

Puzzle 4. What comes next in the sequence?

5	3	3	12	19	35	67	122	?
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- A) 224
 B) 226
 C) 225
 D) 253

Puzzle 5. What comes next in the sequence?

4	3	3	11	18	33	63	115	?
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- A) 212
 B) 230
 C) 213
 D) 211

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Puzzle 6. What comes next in the sequence?

12	43	140	369	820	1607	2868	4765	?
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- A) 4765 B) 7508 C) 7484 D) 7460

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

8	6	3
16	2	24
4	28	?

- A) 18 B) 23 C) 9 D) 19

Puzzle 8. What comes next in the sequence?

4	6	5	17	30	54	103	189	?
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- A) 350 B) 348 C) 346 D) 364

Puzzle 9. What comes next in the sequence?

9	41	149	405	905	1769	3141	5189	?
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- A) 8105 B) 8081 C) 5189 D) 8129

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

7	7	5
12	19	21
2	2	?

- A) 2 B) 8 C) 10 D) 11

Answer Key

1. **D) 10**

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

6. **C) 7484**

4th differences are all 24 (quartic sequence).

2. **D) 8831**

4th differences are all 24 (quartic sequence).

7. **A) 18**

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

3. **A) 329**

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

8. **B) 348**

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

4. **C) 225**

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

9. **A) 8105**

4th differences are all 24 (quartic sequence).

5. **A) 212**

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

10. **C) 10**

Column sums are triangular numbers: 21, 28, 36.