

Pattern Puzzles – Pack 9

Puzzle 1. What comes next in the sequence?

4	13	41	126	382	1151	3459	?
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- A) 10377
 B) 10384
 C) 10383
 D) 3466

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

6	4	2
7	8	1
3	2	?

- A) 14
 B) 11
 C) 15
 D) 19

Puzzle 3. What comes next in the sequence?

4	30	120	340	780	1554	2800	?
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- A) 4704
 B) 4656
 C) 4680
 D) 4046

Puzzle 4. What comes next in the sequence?

10	43	152	409	910	1775	3148	?
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- A) 5197
 B) 5173
 C) 5221
 D) 4521

Puzzle 5. What comes next in the sequence?

1	4	14	45	139	422	1272	?
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- A) 3816
 B) 3822
 C) 1279
 D) 3823

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Puzzle 6. What comes next in the sequence?

6	39	150	411	918	1791	3174	?
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- A) 4557 B) 5235 C) 5211 D) 5259

Puzzle 7. What comes next in the sequence?

5	28	105	296	685	1380	2513	?
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- A) 3646 B) 4216 C) 4240 D) 4264

Puzzle 8. What comes next in the sequence?

0	24	120	360	840	1680	3024	?
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- A) 5016 B) 4368 C) 5040 D) 5064

Puzzle 9. What comes next in the sequence?

7	28	103	292	679	1372	2503	?
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- A) 4204 B) 4252 C) 3634 D) 4228

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

4	5	7
4	6	8
8	6	?

- A) 4 B) 5 C) 8 D) 6

Answer Key

1. **B) 10384**

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

6. **B) 5235**

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

2. **C) 15**

Row sums form arithmetic sequence: 12, 16, 20.

7. **C) 4240**

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

3. **C) 4680**

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

8. **C) 5040**

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

4. **A) 5197**

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

9. **D) 4228**

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

5. **D) 3823**

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

10. **D) 6**

Row sums form arithmetic sequence: 16, 18, 20.