

Pattern Puzzles – Pack 13

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

2	5	6
6	22	10
13	1	?

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Puzzle 2. What comes next in the sequence?

9	11	6	8	17	14	10	13	25	17	14	18	?
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Puzzle 3. What comes next in the sequence?

3	14	10	2	8	20	12	10	13	26	14	18	?
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Puzzle 4. What number replaces the question mark in the grid?

4	4	1
10	13	18
1	4	?

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Puzzle 5. What number replaces the question mark in the grid?

1	2	5
3	4	4
6	9	?

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Puzzle 6. What comes next in the sequence?

9	41	141	375	833	1629	2901	4811	?
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- A) 4811 B) 7545 C) 7521 D) 7569

Puzzle 7. What comes next in the sequence?

12	45	146	381	840	1637	2910	4821	?
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- A) 7580 B) 7532 C) 7556 D) 4821

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

1	5	3
6	2	4
3	8	?

- A) 18 B) 15 C) 8 D) 14

Puzzle 9. What comes next in the sequence?

3	3	4	11	19	35	66	121	?
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- A) 224 B) 265 C) 223 D) 222

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

1	1	7
5	3	17
4	11	?

- A) 35 B) 10 C) 34 D) 18

Answer Key

1. **C) 20**

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

6. **B) 7545**

4th differences are all 24 (quartic sequence).

2. **B) 33**

Four interleaved arithmetic series (period 4):

7. **C) 7556**

4th differences are all 24 (quartic sequence).

3. **B) 18**

Four interleaved arithmetic series (period 4):

8. **D) 14**

Column sums are triangular numbers: 10, 15, 21.

4. **D) 9**

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

9. **C) 223**

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

5. **D) 12**

Column sums are triangular numbers: 10, 15, 21.

10. **C) 34**

Row sums are perfect squares: 9, 25, 49.