

### Pattern Puzzles – Pack 34

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

6	1	18
8	1	27
12	11	?

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**Puzzle 2.** What comes next in the sequence?

8	5	15	15	15	10	20	18	22	15	25	21	?
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**Puzzle 3.** What number replaces the question mark in the grid?

5	6	5
2	2	7
8	13	?

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**Puzzle 4.** What comes next in the sequence?

9	7	9	14	17	13	16	22	25	19	23	30	?
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**Puzzle 5.** What number replaces the question mark in the grid?

2	4	4
6	7	1
2	4	?

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**Puzzle 6.** What comes next in the sequence?

5	30	119	338	777	1550	2795	4674	?
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- A) 7397      B) 7349      C) 4674      D) 7373

**Puzzle 7.** What comes next in the sequence?

2	2	3	10	18	34	65	120	?
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- A) 193      B) 225      C) 219      D) 222

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

2	2	5
12	2	35
11	15	?

- A) 39      B) 38      C) 23      D) 44

**Puzzle 9.** What number replaces the question mark in the grid?

1	1	6
2	11	10
7	3	?

- A) 7      B) 6      C) 5      D) 8

**Puzzle 10.** What comes next in the sequence?

10	57	196	505	1086	2065	3592	5841	?
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- A) 9010      B) 9034      C) 8986      D) 5841

## Answer Key

1. **B) 26**

Row sums are perfect squares: 25, 36, 49.

6. **D) 7373**

4th differences are all 24 (quartic sequence).

2. **A) 29**

Four interleaved arithmetic series (period 4):

7. **D) 222**

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

3. **D) 16**

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

8. **B) 38**

Row sums are perfect squares: 9, 49, 64.

4. **D) 33**

Four interleaved arithmetic series (period 4):

9. **C) 5**

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

5. **A) 16**

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

10. **A) 9010**

4th differences are all 24 (quartic sequence).