

### Pattern Puzzles – Pack 1

**Puzzle 1.** What comes next in the sequence?

9	12	7	11	13	15	11	14	17	18	15	17	?
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- A) 21      B) 20      C) 22      D) 17

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

1	1	23
4	4	28
9	8	?

- A) 33      B) 19      C) 32      D) 21

**Puzzle 3.** What number replaces the question mark in the grid?

2	2	5
7	9	20
9	2	?

- A) 54      B) 25      C) 53      D) 26

**Puzzle 4.** What number replaces the question mark in the grid?

1	5	5
2	3	13
7	7	?

- A) 2      B) 4      C) 3      D) 0

**Puzzle 5.** What comes next in the sequence?

5	6	3	15	25	44	85	155	?
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- A) 285      B) 284      C) 338      D) 286

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

11	57	195	503	1083	2061	3587	5835	?
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- A) 8979      B) 9027      C) 9003      D) 5835

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

4	5	3	15	26	47	91	167	?
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- A) 293      B) 311      C) 305      D) 308

**Puzzle 8.** What comes next in the sequence?

15	9	13	6	20	13	20	14	25	17	27	22	?
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- A) 30      B) 31      C) 21      D) 29

**Puzzle 9.** What comes next in the sequence?

7	40	141	376	835	1632	2905	4816	?
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- A) 7527      B) 4816      C) 7551      D) 7575

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

2	3	4
1	8	12
7	4	?

- A) 6      B) 5      C) 2      D) 8

## Answer Key

1. **A) 21**  
Four interleaved arithmetic series (period 4):
2. **C) 32**  
Row sums are perfect squares: 25, 36, 49.
3. **C) 53**  
Row sums are perfect squares: 9, 36, 64.
4. **C) 3**  
Column sums are triangular numbers: 10, 15, 21.
5. **A) 285**  
Rule:  $a(n) = a(n-1)+a(n-2)+a(n-3)+1$ .
6. **C) 9003**  
4th differences are all 24 (quartic sequence).
7. **D) 308**  
Rule:  $a(n) = a(n-1)+a(n-2)+a(n-3)+3$ .
8. **A) 30**  
Four interleaved arithmetic series (period 4):
9. **C) 7551**  
4th differences are all 24 (quartic sequence).
10. **B) 5**  
Column sums are triangular numbers: 10, 15, 21.