

Pattern Puzzles – Pack 59

Puzzle 1. What comes next in the sequence?

| | | | | | | | | |
|---|---|---|----|----|----|----|-----|---|
| 2 | 3 | 4 | 10 | 18 | 33 | 62 | 114 | ? |
|---|---|---|----|----|----|----|-----|---|

- A) 210 B) 209 C) 211 D) 232

Puzzle 2. What comes next in the sequence?

| | | | | | | | | | | | | |
|---|----|---|---|----|----|----|----|----|----|----|----|---|
| 8 | 12 | 9 | 9 | 13 | 20 | 12 | 17 | 18 | 28 | 15 | 25 | ? |
|---|----|---|---|----|----|----|----|----|----|----|----|---|

- A) 24 B) 23 C) 26 D) 36

Puzzle 3. What comes next in the sequence?

| | | | | | | | | | | | | |
|----|----|---|---|----|----|----|----|----|----|----|----|---|
| 15 | 14 | 9 | 7 | 20 | 22 | 15 | 10 | 25 | 30 | 21 | 13 | ? |
|----|----|---|---|----|----|----|----|----|----|----|----|---|

- A) 33 B) 31 C) 38 D) 30

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

| | | |
|---|---|----|
| 1 | 4 | 20 |
| 4 | 5 | 27 |
| 1 | 4 | ? |

- A) 31 B) 33 C) 44 D) 45

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

| | | |
|----|----|----|
| 3 | 12 | 6 |
| 23 | 1 | 29 |
| 2 | 23 | ? |

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

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Puzzle 6. What comes next in the sequence?

| | | | | | | | | |
|---|---|---|----|----|----|----|-----|---|
| 4 | 4 | 5 | 15 | 26 | 48 | 91 | 167 | ? |
|---|---|---|----|----|----|----|-----|---|

- A) 306 B) 304 C) 308 D) 310

Puzzle 7. What comes next in the sequence?

| | | | | | | | | |
|---|----|-----|-----|-----|------|------|------|---|
| 8 | 35 | 126 | 347 | 788 | 1563 | 2810 | 4691 | ? |
|---|----|-----|-----|-----|------|------|------|---|

- A) 7416 B) 7368 C) 4691 D) 7392

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

| | | |
|---|---|----|
| 2 | 1 | 6 |
| 3 | 1 | 21 |
| 6 | 4 | ? |

- A) 54 B) 38 C) 55 D) 15

Puzzle 9. What comes next in the sequence?

| | | | | | | | | | | | | |
|---|---|----|---|---|----|----|----|----|----|----|----|---|
| 7 | 5 | 11 | 6 | 9 | 12 | 16 | 10 | 11 | 19 | 21 | 14 | ? |
|---|---|----|---|---|----|----|----|----|----|----|----|---|

- A) 13 B) 14 C) 18 D) 26

Puzzle 10. What comes next in the sequence?

| | | | | | | | | |
|---|---|---|----|----|----|----|-----|---|
| 5 | 4 | 6 | 16 | 27 | 50 | 94 | 172 | ? |
|---|---|---|----|----|----|----|-----|---|

- A) 318 B) 316 C) 317 D) 360

Answer Key

1. **A) 210**

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

6. **C) 308**

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

2. **B) 23**

Four interleaved arithmetic series (period 4):

7. **D) 7392**

4th differences are all 24 (quartic sequence).

3. **D) 30**

Four interleaved arithmetic series (period 4):

8. **A) 54**

Row sums are perfect squares: 9, 25, 64.

4. **C) 44**

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

9. **A) 13**

Four interleaved arithmetic series (period 4):

5. **D) 10**

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

10. **C) 317**

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