

Pattern Puzzles – Pack 12

Puzzle 1. What comes next in the sequence?

3	4	6	10	18	34	66	?
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A) 98

B) 135

C) 131

D) 130

Puzzle 2. What comes next in the sequence?

12	24	50	96	168	272	414	?
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A) 594

B) 556

C) 606

D) 600

Puzzle 3. What comes next in the sequence?

4	9	8	7	13	12	10	17	?
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A) 16

B) 21

C) 13

D) 17

Puzzle 4. What comes next in the sequence?

8	9	12	21	48	129	372	?
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A) 858

B) 615

C) 1101

D) 1102

Puzzle 5. What comes next in the sequence?

5	10	4	8	16	10	11	22	?
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A) 16

B) 17

C) 28

D) 14

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Puzzle 6. What comes next in the sequence?

2	2	4	8	14	26	48	88	?
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|--------|--------|--------|--------|
| A) 157 | B) 162 | C) 114 | D) 136 |
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Puzzle 7. What comes next in the sequence?

5	2	2	9	13	24	46	83	?
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|--------|--------|--------|--------|
| A) 142 | B) 107 | C) 129 | D) 153 |
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Puzzle 8. What comes next in the sequence?

15	5	4	23	13	12	31	21	?
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| A) 21 | B) 29 | C) 20 | D) 39 |
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Puzzle 9. What comes next in the sequence?

8	18	38	78	158	318	?
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|--------|--------|--------|--------|
| A) 636 | B) 318 | C) 637 | D) 638 |
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Puzzle 10. What comes next in the sequence?

7	21	49	97	171	277	421	?
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|--------|--------|--------|--------|
| A) 615 | B) 603 | C) 565 | D) 609 |
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Answer Key

1. **D) 130**

Differences form geometric sequence ($\times 2$): 1, 2, 4, 8, 16, 32, 64.

2. **D) 600**

1st diffs: 12, 26, 46, 72, 104, 142.

3. **A) 16**

Three interleaved arithmetic series (period 3).

4. **C) 1101**

Differences form geometric sequence ($\times 3$): 1, 3, 9, 27, 81, 243, 729.

5. **A) 16**

Three interleaved arithmetic series (period 3).

6. **B) 162**

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

7. **D) 153**

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

8. **C) 20**

Three interleaved arithmetic series (period 3).

9. **D) 638**

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

10. **D) 609**

1st diffs: 14, 28, 48, 74, 106, 144.