

## Pattern Puzzles – Pack 24

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

5	19	51	107	193	315	479	?
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|--------|--------|--------|--------|
| A) 691 | B) 643 | C) 685 | D) 697 |
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**Puzzle 2.** What comes next in the sequence?

2	1	4	7	12	23	42	77	?
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|--------|--------|--------|--------|
| A) 100 | B) 119 | C) 142 | D) 163 |
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**Puzzle 3.** What comes next in the sequence?

7	3	4	12	9	9	17	15	?
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|-------|-------|-------|-------|
| A) 14 | B) 22 | C) 15 | D) 21 |
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**Puzzle 4.** What comes next in the sequence?

6	12	9	13	15	17	20	18	?
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|-------|-------|-------|-------|
| A) 27 | B) 25 | C) 21 | D) 26 |
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**Puzzle 5.** What comes next in the sequence?

10	13	19	31	55	103	199	?
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|--------|--------|--------|--------|
| A) 295 | B) 374 | C) 391 | D) 394 |
|--------|--------|--------|--------|

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

4	2	4	10	16	30	56	102	?
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|--------|--------|--------|--------|
| A) 158 | B) 217 | C) 132 | D) 188 |
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**Puzzle 7.** What comes next in the sequence?

12	24	18	36	30	60	54	108	?
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|--------|--------|--------|--------|
| A) 102 | B) 217 | C) 108 | D) 216 |
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**Puzzle 8.** What comes next in the sequence?

17	51	42	126	117	351	342	1026	?
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|---------|---------|---------|---------|
| A) 1026 | B) 1017 | C) 3079 | D) 3078 |
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**Puzzle 9.** What comes next in the sequence?

8	11	20	47	128	371	1100	?
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|---------|---------|---------|---------|
| A) 2558 | B) 3290 | C) 1829 | D) 3287 |
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**Puzzle 10.** What comes next in the sequence?

14	17	23	35	59	107	203	?
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|--------|--------|--------|--------|
| A) 299 | B) 380 | C) 395 | D) 398 |
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## Answer Key

1. **A) 691**

1st diffs: 14, 32, 56, 86, 122, 164.

2. **C) 142**

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

3. **A) 14**

Three interleaved arithmetic series (period 3).

4. **B) 25**

Three interleaved arithmetic series (period 3).

5. **C) 391**

Differences form geometric sequence ( $\times 2$ ): 3, 6, 12, 24, 48, 96, 192.

6. **D) 188**

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

7. **D) 216**

Alternating:  $\times 2$  (odd steps),  $-6$  (even steps).

8. **D) 3078**

Alternating:  $\times 3$  (odd steps),  $-9$  (even steps).

9. **D) 3287**

Differences form geometric sequence ( $\times 3$ ): 3, 9, 27, 81, 243, 729, 2187.

10. **C) 395**

Differences form geometric sequence ( $\times 2$ ): 3, 6, 12, 24, 48, 96, 192.