

Pattern Puzzles – Pack 6

Puzzle 1. What comes next in the sequence?

7	20	46	98	202	410	?
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|--------|--------|--------|--------|
| A) 410 | B) 826 | C) 820 | D) 825 |
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Puzzle 2. What comes next in the sequence?

12	16	24	40	72	136	264	?
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| A) 392 | B) 476 | C) 520 | D) 524 |
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Puzzle 3. What comes next in the sequence?

13	26	20	40	34	68	62	124	?
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| A) 248 | B) 249 | C) 124 | D) 118 |
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Puzzle 4. What comes next in the sequence?

20	60	51	153	144	432	423	1269	?
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| A) 3807 | B) 1260 | C) 1269 | D) 3808 |
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Puzzle 5. What comes next in the sequence?

4	4	5	13	22	40	75	137	?
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| A) 212 | B) 248 | C) 252 | D) 177 |
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Puzzle 6. What comes next in the sequence?

6	11	15	10	14	18	14	17	?
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| A) 22 | B) 20 | C) 18 | D) 21 |
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Puzzle 7. What comes next in the sequence?

3	3	4	10	17	31	58	106	?
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| A) 164 | B) 212 | C) 195 | D) 137 |
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Puzzle 8. What comes next in the sequence?

8	19	41	85	173	349	?
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| A) 701 | B) 698 | C) 349 | D) 700 |
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Puzzle 9. What comes next in the sequence?

8	24	14	42	32	96	86	258	?
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| A) 774 | B) 258 | C) 248 | D) 775 |
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Puzzle 10. What comes next in the sequence?

6	17	44	93	170	281	432	?
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| A) 635 | B) 623 | C) 629 | D) 583 |
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Answer Key

1. **B) 826**

Rule: $a(n) = 2 \times a(n-1) + 6$.

2. **C) 520**

Differences form geometric sequence ($\times 2$): 4, 8, 16, 32, 64, 128, 256.

3. **A) 248**

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

4. **A) 3807**

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

5. **C) 252**

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

6. **D) 21**

Three interleaved arithmetic series (period 3).

7. **C) 195**

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

8. **A) 701**

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

9. **A) 774**

Alternating: $\times 3$ (odd steps), -10 (even steps).

10. **C) 629**

1st diffs: 11, 27, 49, 77, 111, 151.