

Pattern Puzzles – Pack 5

Puzzle 1. What comes next in the sequence?

7	9	13	21	37	69	133	?
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|--------|--------|--------|--------|
| A) 314 | B) 263 | C) 261 | D) 197 |
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Puzzle 2. What comes next in the sequence?

6	18	46	96	174	286	438	?
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| A) 636 | B) 630 | C) 590 | D) 642 |
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Puzzle 3. What comes next in the sequence?

4	5	14	8	12	19	12	19	?
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| A) 26 | B) 25 | C) 24 | D) 16 |
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Puzzle 4. What comes next in the sequence?

20	60	49	147	136	408	397	1191	?
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| A) 1180 | B) 3573 | C) 1191 | D) 3574 |
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Puzzle 5. What comes next in the sequence?

12	13	16	25	52	133	376	?
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| A) 1105 | B) 1106 | C) 862 | D) 619 |
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Puzzle 6. What comes next in the sequence?

3	5	9	17	33	65	129	?
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| A) 193 | B) 257 | C) 298 | D) 259 |
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Puzzle 7. What comes next in the sequence?

2	8	20	44	92	188	?
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| A) 376 | B) 188 | C) 379 | D) 380 |
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Puzzle 8. What comes next in the sequence?

9	12	18	30	54	102	198	?
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| A) 294 | B) 393 | C) 369 | D) 390 |
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Puzzle 9. What comes next in the sequence?

6	15	36	93	258	747	?
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| A) 750 | B) 2208 | C) 2211 | D) 2205 |
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Puzzle 10. What comes next in the sequence?

5	13	33	89	253	741	?
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| A) 2199 | B) 2203 | C) 743 | D) 2201 |
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Answer Key

1. **C) 261**

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

6. **B) 257**

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

2. **A) 636**

1st diffs: 12, 28, 50, 78, 112, 152.

7. **D) 380**

Rule: $a(n) = 2 \times a(n-1) + 4$.

3. **C) 24**

Three interleaved arithmetic series (period 3).

8. **D) 390**

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

4. **B) 3573**

Alternating: $\times 3$ (odd steps), -11 (even steps).

9. **B) 2208**

Formula: $3^n + 3n$. $n=7$: $2187 + 21 = 2208$.

5. **A) 1105**

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

10. **D) 2201**

Formula: $3^n + 2n$. $n=7$: $2187 + 14 = 2201$.