

Pattern Puzzles – Pack 22

Puzzle 1. What comes next in the sequence?

1	5	1	7	13	21	41	75	?
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|--------|--------|--------|-------|
| A) 116 | B) 137 | C) 119 | D) 96 |
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Puzzle 2. What comes next in the sequence?

2	4	13	4	8	18	6	12	?
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| A) 23 | B) 8 | C) 16 | D) 24 |
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Puzzle 3. What comes next in the sequence?

8	22	52	104	184	298	452	?
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| A) 646 | B) 652 | C) 606 | D) 658 |
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Puzzle 4. What comes next in the sequence?

9	11	17	35	89	251	737	?
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| A) 2195 | B) 1709 | C) 2197 | D) 1223 |
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Puzzle 5. What comes next in the sequence?

8	20	48	98	176	288	440	?
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| A) 644 | B) 632 | C) 638 | D) 592 |
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Puzzle 6. What comes next in the sequence?

8	20	44	92	188	380	?
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| A) 760 | B) 380 | C) 764 | D) 763 |
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Puzzle 7. What comes next in the sequence?

4	8	16	32	64	128	256	?
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| A) 512 | B) 556 | C) 516 | D) 384 |
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Puzzle 8. What comes next in the sequence?

4	13	31	67	139	283	?
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| A) 566 | B) 570 | C) 571 | D) 283 |
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Puzzle 9. What comes next in the sequence?

13	26	18	36	28	56	48	96	?
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| A) 88 | B) 193 | C) 192 | D) 96 |
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Puzzle 10. What comes next in the sequence?

4	3	6	6	9	8	8	15	?
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| A) 21 | B) 11 | C) 12 | D) 10 |
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Answer Key

1. **B) 137**

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

6. **C) 764**

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

2. **A) 23**

Three interleaved arithmetic series (period 3).

7. **A) 512**

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

3. **B) 652**

1st diffs: 14, 30, 52, 80, 114, 154.

8. **C) 571**

Rule: $a(n) = 2 \times a(n-1) + 5$.

4. **A) 2195**

Differences form geometric sequence ($\times 3$): 2, 6, 18, 54, 162, 486, 1458.

9. **C) 192**

Alternating: $\times 2$ (odd steps), -8 (even steps).

5. **C) 638**

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

10. **D) 10**

Three interleaved arithmetic series (period 3).