

Pattern Puzzles – Pack 20

Puzzle 1. What comes next in the sequence?

4	5	4	15	26	47	90	165	?
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A) 286	B) 304	C) 306	D) 302
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Puzzle 2. What number replaces the question mark in the grid?

7	8	2
4	4	16
17	24	?

A) 28	B) 18	C) 32	D) 27
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Puzzle 3. What comes next in the sequence?

5	2	3	13	21	40	77	141	?
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A) 261	B) 288	C) 258	D) 264
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Puzzle 4. What comes next in the sequence?

9	54	191	498	1077	2054	3579	5826	?
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A) 5826	B) 8993	C) 9017	D) 8969
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Puzzle 5. What comes next in the sequence?

10	43	144	379	838	1635	2908	4819	?
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A) 7578	B) 7554	C) 7530	D) 4819
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Puzzle 6. What comes next in the sequence?

4	33	136	385	876	1729	3088	5121	?
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| A) 7996 | B) 5121 | C) 8020 | D) 8044 |
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Puzzle 7. What comes next in the sequence?

7	14	14	15	12	17	17	17	17	20	20	19	?
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|-------|-------|-------|-------|
| A) 22 | B) 23 | C) 20 | D) 27 |
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Puzzle 8. What comes next in the sequence?

14	5	6	10	17	12	11	15	20	19	16	20	?
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|-------|-------|-------|-------|
| A) 24 | B) 27 | C) 26 | D) 23 |
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Puzzle 9. What comes next in the sequence?

7	42	153	412	915	1782	3157	5208	?
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|---------|---------|---------|---------|
| A) 8151 | B) 8127 | C) 5208 | D) 8103 |
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Puzzle 10. What comes next in the sequence?

6	2	3	14	22	42	81	148	?
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|--------|--------|--------|--------|
| A) 248 | B) 271 | C) 277 | D) 274 |
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Answer Key

1. **B) 304**

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

2. **D) 27**

Column sums are triangular numbers: 28, 36, 45.

3. **A) 261**

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

4. **B) 8993**

4th differences are all 24 (quartic sequence).

5. **B) 7554**

4th differences are all 24 (quartic sequence).

6. **C) 8020**

4th differences are all 24 (quartic sequence).

7. **A) 22**

Four interleaved arithmetic series (period 4):

8. **D) 23**

Four interleaved arithmetic series (period 4):

9. **B) 8127**

4th differences are all 24 (quartic sequence).

10. **D) 274**

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