

Pattern Puzzles – Pack 30

Puzzle 1. What number replaces the question mark in the grid?

3	5	7
4	7	5
3	3	?

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Puzzle 2. What number replaces the question mark in the grid?

1	1	14
3	4	18
1	3	?

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Puzzle 3. What comes next in the sequence?

2	4	2	10	18	32	62	114	?
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Puzzle 4. What comes next in the sequence?

10	35	122	337	770	1535	2770	4637	?
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Puzzle 5. What number replaces the question mark in the grid?

3	4	9
3	7	39
9	2	?

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Puzzle 6. What comes next in the sequence?

2	3	4	11	20	37	70	129	?
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|--------|--------|--------|--------|
| A) 240 | B) 236 | C) 233 | D) 238 |
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Puzzle 7. What comes next in the sequence?

4	28	114	328	760	1524	2758	4624	?
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|---------|---------|---------|---------|
| A) 7308 | B) 7332 | C) 4624 | D) 7284 |
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Puzzle 8. What comes next in the sequence?

5	2	3	11	17	32	61	111	?
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|--------|--------|--------|--------|
| A) 204 | B) 241 | C) 205 | D) 206 |
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Puzzle 9. What comes next in the sequence?

2	3	4	12	22	41	78	144	?
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|--------|--------|--------|--------|
| A) 263 | B) 269 | C) 266 | D) 229 |
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Puzzle 10. What comes next in the sequence?

5	33	127	353	801	1585	2843	4737	?
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| A) 7477 | B) 7429 | C) 4737 | D) 7453 |
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Answer Key

1. **D) 9**

Column sums are triangular numbers: 10, 15, 21.

6. **D) 238**

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

2. **D) 45**

Row sums are perfect squares: 16, 25, 49.

7. **A) 7308**

4th differences are all 24 (quartic sequence).

3. **B) 210**

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

8. **C) 205**

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

4. **D) 7322**

4th differences are all 24 (quartic sequence).

9. **C) 266**

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

5. **C) 53**

Row sums are perfect squares: 16, 49, 64.

10. **D) 7453**

4th differences are all 24 (quartic sequence).