

Pattern Puzzles – Pack 9

Puzzle 1. What comes next in the sequence?

7	22	55	112	199	322	487	?
---	----	----	-----	-----	-----	-----	---

- | | | | |
|--------|--------|--------|--------|
| A) 700 | B) 652 | C) 694 | D) 706 |
|--------|--------|--------|--------|

Puzzle 2. What comes next in the sequence?

7	11	23	59	167	491	1463	?
---	----	----	----	-----	-----	------	---

- | | | | |
|---------|---------|---------|---------|
| A) 3407 | B) 4383 | C) 4379 | D) 2435 |
|---------|---------|---------|---------|

Puzzle 3. What comes next in the sequence?

13	26	17	34	25	50	41	82	?
----	----	----	----	----	----	----	----	---

- | | | | |
|-------|--------|--------|-------|
| A) 73 | B) 165 | C) 164 | D) 82 |
|-------|--------|--------|-------|

Puzzle 4. What comes next in the sequence?

2	2	2	6	10	18	34	62	?
---	---	---	---	----	----	----	----	---

- | | | | |
|-------|--------|-------|--------|
| A) 80 | B) 114 | C) 96 | D) 123 |
|-------|--------|-------|--------|

Puzzle 5. What comes next in the sequence?

6	15	33	69	141	285	?
---	----	----	----	-----	-----	---

- | | | | |
|--------|--------|--------|--------|
| A) 572 | B) 573 | C) 285 | D) 570 |
|--------|--------|--------|--------|

Pattern Puzzles – Pack 9

Puzzle 6. What comes next in the sequence?

3	1	2	6	9	17	32	58	?
---	---	---	---	---	----	----	----	---

A) 107	B) 99	C) 75	D) 90
--------	-------	-------	-------

Puzzle 7. What comes next in the sequence?

17	51	45	135	129	387	381	1143	?
----	----	----	-----	-----	-----	-----	------	---

A) 1143	B) 3429	C) 3430	D) 1137
---------	---------	---------	---------

Puzzle 8. What comes next in the sequence?

8	19	44	89	160	263	404	?
---	----	----	----	-----	-----	-----	---

A) 545	B) 583	C) 589	D) 595
--------	--------	--------	--------

Puzzle 9. What comes next in the sequence?

4	5	4	13	22	39	74	135	?
---	---	---	----	----	----	----	-----	---

A) 265	B) 174	C) 209	D) 248
--------	--------	--------	--------

Puzzle 10. What comes next in the sequence?

5	15	35	75	155	315	?
---	----	----	----	-----	-----	---

A) 634	B) 630	C) 315	D) 635
--------	--------	--------	--------

Answer Key

1. **A) 700**

1st diffs: 15, 33, 57, 87, 123, 165.

2. **C) 4379**

Differences form geometric sequence ($\times 3$): 4, 12, 36, 108, 324, 972, 2916.

3. **C) 164**

Alternating: $\times 2$ (odd steps), -9 (even steps).

4. **B) 114**

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

5. **B) 573**

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

6. **A) 107**

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

7. **B) 3429**

Alternating: $\times 3$ (odd steps), -6 (even steps).

8. **C) 589**

1st diffs: 11, 25, 45, 71, 103, 141.

9. **D) 248**

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

10. **D) 635**

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