

### Pattern Puzzles – Pack 16

**Puzzle 1.** What comes next in the sequence?

1	2	1	4	7	12	23	42	?
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|-------|-------|-------|-------|
| A) 65 | B) 77 | C) 54 | D) 88 |
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**Puzzle 2.** What comes next in the sequence?

11	27	59	113	195	311	467	?
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|--------|--------|--------|--------|
| A) 675 | B) 663 | C) 623 | D) 669 |
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**Puzzle 3.** What comes next in the sequence?

11	13	2	16	21	10	21	29	?
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|-------|-------|-------|-------|
| A) 18 | B) 19 | C) 37 | D) 26 |
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**Puzzle 4.** What comes next in the sequence?

4	3	5	12	20	37	69	126	?
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|--------|--------|--------|--------|
| A) 232 | B) 262 | C) 163 | D) 195 |
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**Puzzle 5.** What comes next in the sequence?

9	29	67	129	221	349	519	?
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|--------|--------|--------|--------|
| A) 743 | B) 689 | C) 737 | D) 731 |
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**Puzzle 6.** What comes next in the sequence?

7	14	33	70	131	222	349	?
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|--------|--------|--------|--------|
| A) 476 | B) 524 | C) 512 | D) 518 |
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**Puzzle 7.** What comes next in the sequence?

4	16	42	88	160	264	406	?
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|--------|--------|--------|--------|
| A) 586 | B) 548 | C) 592 | D) 598 |
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**Puzzle 8.** What comes next in the sequence?

8	16	4	8	-4	-8	-20	-40	?
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|--------|--------|--------|--------|
| A) -80 | B) -79 | C) -78 | D) -77 |
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**Puzzle 9.** What comes next in the sequence?

13	39	35	105	101	303	299	897	?
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|--------|---------|--------|---------|
| A) 893 | B) 2691 | C) 897 | D) 2692 |
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**Puzzle 10.** What comes next in the sequence?

12	29	64	123	212	337	504	?
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|--------|--------|--------|--------|
| A) 725 | B) 713 | C) 719 | D) 671 |
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## Answer Key

1. **B) 77**

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

6. **D) 518**

1st diffs: 7, 19, 37, 61, 91, 127.

2. **D) 669**

1st diffs: 16, 32, 54, 82, 116, 156.

7. **C) 592**

1st diffs: 12, 26, 46, 72, 104, 142.

3. **A) 18**

Three interleaved arithmetic series (period 3).

8. **A) -80**

Alternating:  $\times 2$  (odd steps),  $-12$  (even steps).

4. **A) 232**

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

9. **B) 2691**

Alternating:  $\times 3$  (odd steps),  $-4$  (even steps).

5. **C) 737**

1st diffs: 20, 38, 62, 92, 128, 170.

10. **C) 719**

1st diffs: 17, 35, 59, 89, 125, 167.