

### Pattern Puzzles – Pack 33

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

4	4	6	17	30	56	106	195	?
---	---	---	----	----	----	-----	-----	---

- A) 363    
  B) 360    
  C) 357    
  D) 404

**Puzzle 2.** What comes next in the sequence?

10	8	9	11	18	10	16	14	26	12	23	17	?
----	---	---	----	----	----	----	----	----	----	----	----	---

- A) 35    
  B) 28    
  C) 34    
  D) 14

**Puzzle 3.** What comes next in the sequence?

6	5	4	18	30	55	106	194	?
---	---	---	----	----	----	-----	-----	---

- A) 355    
  B) 358    
  C) 298    
  D) 361

**Puzzle 4.** What comes next in the sequence?

6	11	11	9	9	18	13	16	12	25	15	23	?
---	----	----	---	---	----	----	----	----	----	----	----	---

- A) 19    
  B) 15    
  C) 32    
  D) 16

**Puzzle 5.** What comes next in the sequence?

15	63	203	513	1095	2075	3603	5853	?
----	----	-----	-----	------	------	------	------	---

- A) 5853    
  B) 9047    
  C) 8999    
  D) 9023

### Pattern Puzzles – Pack 33

**Puzzle 6.** What number replaces the question mark in the grid?

1	2	10
6	10	1
14	16	?

- A) 26     
  B) 17     
  C) 25     
  D) 28

**Puzzle 7.** What number replaces the question mark in the grid?

4	4	8
2	8	26
4	9	?

- A) 37     
  B) 36     
  C) 23     
  D) 16

**Puzzle 8.** What comes next in the sequence?

8	39	138	371	828	1623	2894	4803	?
---	----	-----	-----	-----	------	------	------	---

- A) 7560     
  B) 7536     
  C) 4803     
  D) 7512

**Puzzle 9.** What comes next in the sequence?

2	4	3	11	20	36	69	127	?
---	---	---	----	----	----	----	-----	---

- A) 234     
  B) 249     
  C) 236     
  D) 232

**Puzzle 10.** What comes next in the sequence?

9	6	6	12	16	13	9	16	23	20	12	20	?
---	---	---	----	----	----	---	----	----	----	----	----	---

- A) 29     
  B) 30     
  C) 31     
  D) 27

## Answer Key

1. **B) 360**

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

6. **C) 25**

Column sums are triangular numbers: 21, 28, 36.

2. **C) 34**

Four interleaved arithmetic series (period 4):

7. **B) 36**

Row sums are perfect squares: 16, 36, 49.

3. **B) 358**

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

8. **B) 7536**

4th differences are all 24 (quartic sequence).

4. **B) 15**

Four interleaved arithmetic series (period 4):

9. **A) 234**

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

5. **D) 9023**

4th differences are all 24 (quartic sequence).

10. **B) 30**

Four interleaved arithmetic series (period 4):