

CHAPTER-1 | Patterns in Mathematics

QUIZ
PART-07

1. The sum of the first 5 odd numbers is:

- A. 25
- B. 36
- C. 16
- D. 12 (B)

Explanation: The sum of the first 5 odd numbers ($1 + 3 + 5 + 7 + 9$) equals 36, as shown in the example in the chapter.

2. Can we get an even number after adding natural numbers up and down?

- A. Yes
- B. No
- C. Triangular numbers
- D. Powers of 2 (A)

Explanation: Yes, by adding natural numbers in an up-and-down pattern (such as $1 + 2 + 1$), we can get even numbers.

3. The sequence 1, 7, 19, 37, 61 represents:

- A. Square numbers
- B. Triangular numbers
- C. Hexagonal numbers
- D. Fibonacci sequence (C)

Explanation: This is an example of hexagonal numbers, as represented visually with dots in the chapter.

4. The sum of the first 10 odd numbers is:

- A. 100
- B. 120
- C. 80
- D. 110 (A)

Explanation: The sum of the first 10 odd numbers ($1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19$) equals 100.

5. The sum of the first 6 odd numbers results in a:

- A. Cube number
- B. Square number
- C. Fibonacci number
- D. Triangular number (B)

Explanation: The sum of the first 6 odd numbers ($1 + 3 + 5 + 7 + 9 + 11$) equals 36, which is a square number.

6. What is the next number in the sequence 1, 7, 19, 37?

- A. 53
- B. 49
- C. 61
- D. 67 (C)

Explanation: The next number in the sequence of hexagonal numbers is 61.

7. Which of the following patterns can be represented by dots forming a triangle?

- A. Square numbers
- B. Triangular numbers
- C. Cube numbers
- D. Powers of 2 (B)

Explanation: Triangular numbers can be represented by dots forming a triangle, as shown in the chapter.

8. The sequence of numbers 1, 4, 9, 16, 25 represents:

- A. Powers of 2
- B. Square numbers
- C. Cube numbers
- D. Odd numbers (B)

Explanation: This sequence represents square numbers, where each number is the square of an integer.

9. In the sequence of powers of 2, the numbers are:

- A. 1, 2, 3, 4
- B. 1, 2, 4, 8, 16
- C. 1, 3, 9, 27
- D. 2, 4, 8, 16 (B)

Explanation: The sequence 1, 2, 4, 8, 16 represents the powers of 2.

10. The number 36 is an example of both a:

- A. Square and Triangular number
- B. Square and Cube number
- C. Triangular and Cube number
- D. Fibonacci number (A)

Explanation: The number 36 is both a square number and a triangular number, as it can be arranged both as a square and a triangle.