## **Relations among Number Sequences**

## A. Choose the correct option: 1. What is the next number in the sequence: 2, 4, 8, 16, 32, \_\_\_\_? b) 50 a) 48 c) 64 d) 36 2. The pattern in the sequence 1, 4, 9, 16, 25, \_\_\_\_\_ follows which mathematical operation? a) Addition b) Multiplication c) Squares of natural numbers d) Cubes of natural numbers 3. If a sequence follows the pattern: 3, 6, 12, 24, 48, \_\_\_\_\_, what is the missing number? a) 60 b) 72 c) 96 d) 102 **B.** Write the Missing Terms to Complete the Sentences: 1. The next number in the pattern 5, 10, 20, 40, \_\_\_\_ is \_\_\_\_\_. 2. The missing number in the sequence 2, 6, \_\_, 54, 162 is . 3. The pattern 1, 3, 6, 10, \_\_, 21, 28 follows the rule of adding \_\_\_\_\_ to the previous term. 4. The difference between consecutive numbers in the arithmetic sequence 7, 14, 21, 28, \_\_\_\_is \_\_\_\_\_. 5. If a sequence follows a doubling pattern, then the next number in 4, 8, 16, will be \_\_\_\_\_. C. Find the solutions to the questions below. 1. Find the next two terms: 12, 24, 36, 48, \_\_, \_\_ 2. Identify the missing number in the pattern: 3, 6, 11, 18, 27, \_\_\_\_

- 3. Write the rule for this number pattern: 2, 5, 10, 17, 26, \_\_\_\_
- 4. Identify whether the sequence is arithmetic or geometric: 4, 8, 16, 32, 64

## **D.** Challenge yourself with these questions

1. Write the first five terms of the sequence where each term is obtained by multiplying the previous term by 3, starting with 1.

- 2. If the sum of two consecutive numbers in a pattern is always 15, find the missing number: 7, \_\_, 8, \_\_, 9
- 3. Describe the pattern followed in the sequence: 1, 4, 9, 16, 25, \_\_\_\_
- 4. Create your own sequence where each number is increased by 3 more than the previous increment. Write the first five terms.

## E. Mark each sentence with a True ( $\checkmark$ ) or False (X):

- 1. The sequence 2, 4, 8, 16, 32 follows an arithmetic pattern.
- 2. The sequence 1, 2, 4, 8, 16 is formed by adding 2 each time.
- 3. The Fibonacci sequence follows the pattern where each term is the sum of the previous two terms.
- 4. The sequence 5, 10, 15, 20, 25 follows a multiplication pattern.
- 5. The sum of any two consecutive even numbers is always an odd number.