Identification of Patterns in Square and Triangular Numbers

A. Choose the correct answer:

1. What is the square of 5?

a) 10 b) 25

c) 15 d) 20

2. Which of the following is a triangular number?

a) 9 b) 6

c) 12 d) 8

3. The pattern of square numbers is formed by

a) Adding 2 every time b) Multiplying the number by itself

c) Doubling the number d) Subtracting 1

4. What is the next square number after 36?

a) 42 b) 48

c) 49 d) 50

5. Which number is both a square and a triangular number?

a) 6 b) 36

c) 25 d) 1

B. Write the Missing Terms to Complete the Sentences:

1. The square of 4 is _____.
2. The first triangular number is _____.
3. The third square number is _____.
4. A triangular number forms a _____ pattern when dots are arranged.
5. The difference between two consecutive square numbers increases by _____ each time.

C. Mark each sentence with a True (✔) or False (✗):

1. The square of 6 is 36 _____
2. All triangular numbers are square numbers _____

3. Triangular numbers can be formed by adding natural numbers in order _____
4. The square of 3 is 6 _____
5. The pattern of square numbers is non-repeating _____

D. Figure out the answers to these questions:

1. Write the first five square numbers and observe their pattern.
2. Write the first five triangular numbers and describe how they grow.
3. Draw dot patterns to show the triangular numbers 3 and 6.
4. Find the next two numbers in the square number sequence: 1, 4, 9, 16, ___, ___.
5. How many dots are there in the 6th triangular number? Show your working.

E. Challenge yourself with these questions:

1. Identify whether 10 is a square number or a triangular number.
2. Which number comes next in the triangular number pattern: 1, 3, 6, 10, ___.
3. Draw and label dot patterns for square numbers up to 16.
4. Find the square of 7 and describe how it fits in the pattern of square numbers.
5. Count how many dots are needed to form a triangular number pattern of 5 rows.