2 Marks

1. Write the next three numbers of the sequence: 1, 3, 6, 10, 15. What is the name of this sequence?

   Solution:

   STEP 1: First, observe the pattern in the sequence 1, 3, 6, 10, 15.

   STEP 2: Now look at how the numbers are increasing;

   > From 1 to 3, we add 2
   > From 3 to 6, we add 3
   > From 6 to 10, we add 4
   > From 10 to 15, we add 5

   STEP 3: Each time, we are adding the next natural number :2, 3, 4, 5...

   STEP 4: Now, we have to find the next 3 numbers,

   > We add 15+6=21
   > 21+7=28
   > 28+8=36

   > We have added the consecutive natural number to each of the value in the sequence.

   STEP 5: This pattern is called the **"triangular numbers"**, because each number can form a triangle of dots.

2. Find the sum of the first 5 odd numbers.

   Solution:

   STEP 1: First, list the first 5 odd numbers: 1,3,5,7,9

   STEP 2: Now we have to the odd numbers.

   > 1+3=4
   > 4+5=9
   > 9+7=16
   > 16+9=25

   STEP 3: The total sum the odd numbers is 25

   > If odd numbers added like this it forms square numbers.

3. What number comes next in the pattern: 1, 2, 4, 8, 16, ...?

   Solution:

   STEP 1: First, observe the pattern.

   STEP 2: Each number is doubling the previous number.

   > $1 \times 2 = 2$
   > $2 \times 2 = 4$