L-13 PATTERNS

In Mathematics, a pattern is a repeated arrangement of numbers, shapes, and colours and so on. The Pattern can be related to any type of event or object. The shape can increase or decrease in size or can change direction. A pattern has a rule that tells us which objects belong to the pattern and which objects do not belong to the pattern.

Types of Patterns

1. Number Patterns

A list of numbers that follow a certain sequence is known as patterns or number patterns. The different types of number patterns are algebraic or arithmetic pattern, geometric pattern, Fibonacci pattern and so on.

Few examples of numerical patterns are:

Even numbers pattern -: 2, 4, 6, 8, 10, 1, 14, 16, 18, …

Odd numbers pattern -: 3, 5, 7, 9, 11, 13, 15, 17, 19, …

Fibonacci numbers pattern -: 1, 1, 2, 3, 5, 8 ,13, 21, … and so on.

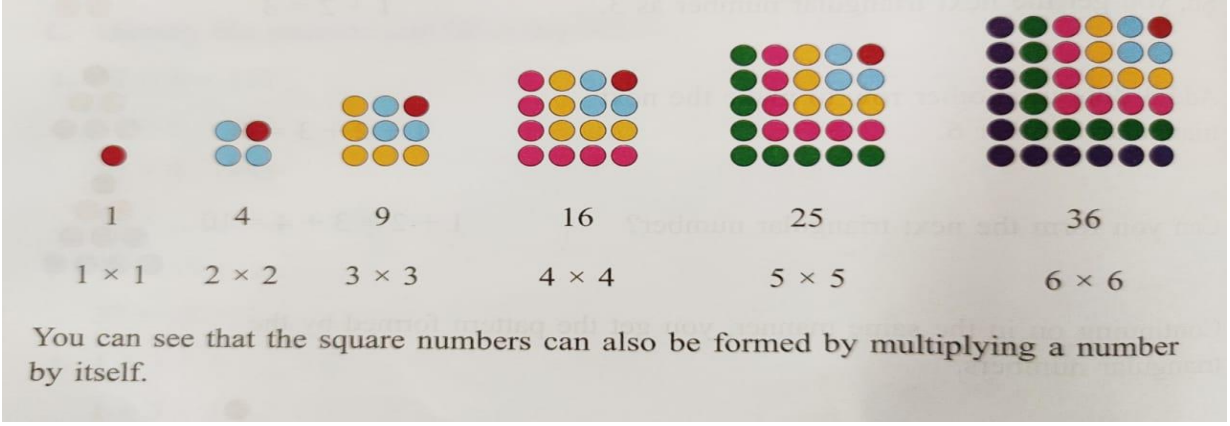
2. Repeating Pattern

The type of pattern in which the rule keeps repeating over and over is called a repeating pattern. It is generally common in letter and shape.

3. Square Number Pattern

In the square number pattern, each consecutive square number is the result of adding the next consecutive odd number.

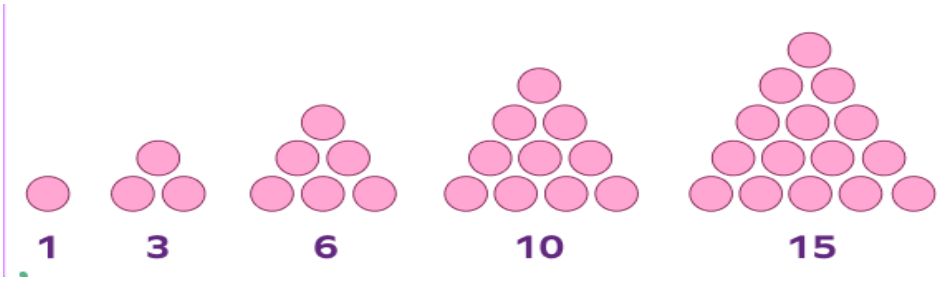
Example: 1,4,9,16,25,….1,4,9,16,25,….
11 is the square of the number 1.1.
1+3,1+3, here, the square number is 4.4.
1+3+5,1+3+5, the next square number is 99 and so on.



4. Triangular Number Pattern

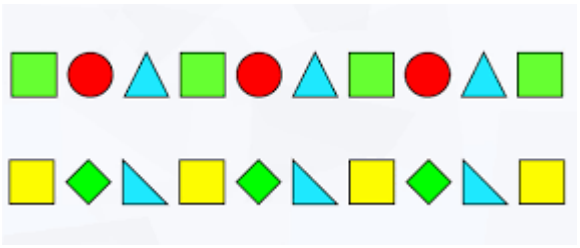
The representation of the numbers in the form of an equilateral triangle arranged in a series or sequence is known as a triangular number pattern. The numbers in the triangular pattern are in a sequence of 1, 3, 6, 10, 15, 21, 28, 36, 45 and so on. The numbers in the triangular pattern are represented by dots.

Example:



5. Shapes Pattern

Shape patterns are groupings of different shapes that follow given rules. Shape patterns are particular sequences of shapes that are repeated in an orderly manner. The shapes used in the sequences are circles, rectangles, and squares or the images of other objects.



Solve the problems of Ex 13.1 (Q 1 to Q 2)

Ex 13.2 (Q 1 to Q 4)

Ex 13.3 (Q 1 to Q 2)

Solve Mental Maths (page252 and 253)