

Visual and Shape Patterns

Chapter 1: Patterns in Mathematics · Topic 2

Key Concept

Recognising visual patterns strengthens spatial reasoning alongside numerical understanding — students can predict the next figure in a sequence by identifying how many new elements are added each time, such as noticing that each new 'layer' added to a growing square pattern always adds an odd number of new dots. This connects to the mathematical fact that the sum of the first n odd numbers always equals n^2 , linking visual and numerical patterns together.

Quick Revision Notes

- Visual patterns use shapes/dots arranged in growing or repeating sequences.
- A growing square pattern of dots represents the sequence of square numbers.
- Each new 'layer' added to a growing square pattern adds an odd number of dots.
- The sum of the first n odd numbers always equals n^2 (a square number).

Practice Questions

- 1 Draw the next figure in a growing triangle pattern.
- 2 Verify that the sum of the first 4 odd numbers equals 4^2 .
- 3 Create your own growing visual pattern and describe its rule.