

Sequences – GCSE Mathematics

1. No.23

- (a) The first three terms of a geometric progression are $\frac{\sqrt{5}}{2}$ $\frac{5}{4}$ $\frac{5\sqrt{5}}{8}$

Work out the next term.

[1 mark]

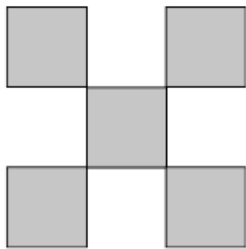
Answer

- (b) The n th term of a sequence is $(2 + \sqrt{3})^n$

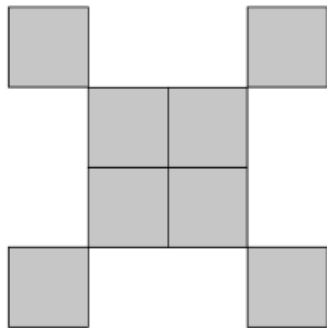
Show that the third term is $26 + 15\sqrt{3}$ **[3 marks]**

2. No.1

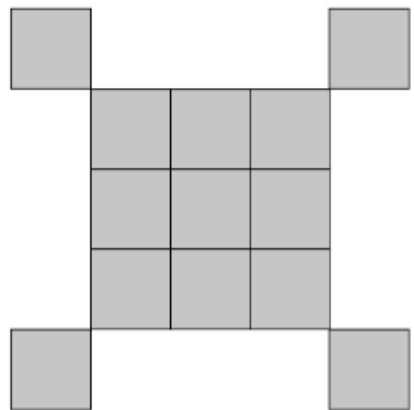
Here are the first three Patterns in a sequence made up of small squares.



Pattern 1



Pattern 2



Pattern 3

(a) On the grid, draw Pattern 4

[1 mark]



- (b) The expression for the number of small squares in Pattern n is $n^2 + 4$

Work out the least value of n for which the number of small squares is greater than 500

[1 mark]

$n =$ _____