Mathematics

Sequences

Growing pattern sequences

Downloadable Resource

Ms Jones

Try This

Yasmin and Zaki are discussing the number of squares in each term of the growing pattern.

This isn't an arithmetic sequence. We can't work out what the n^{th} term rule will be.

I think I know how many squares the 5^{th}, 6^{th}, etc term will have, so we can work out any term...

term 1

term 2

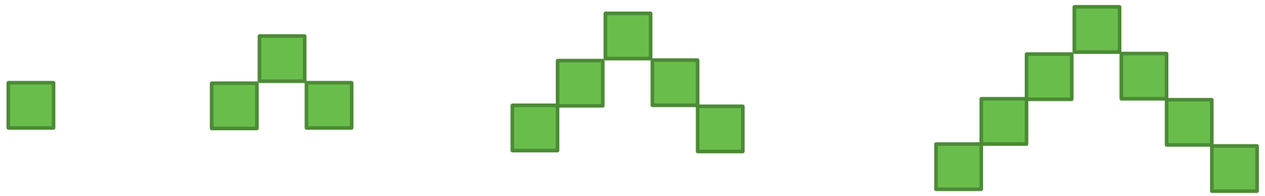
term 3

term 4

Who do you agree with? Why?

Independent task

1. Find the n^{th} term of the following sequence:



1. Draw shapes to illustrate the first 4 terms of the sequence 3n - 2

3. Which is greater:

a) The 8^{th} term of 4n – 3, or 5^{th} term 5n – 2?

b) The 3^{rd} term of -2n + 3 or the 1^{st} term of 2n – 3?

c) The 100^{th} term of 10n – 2 or the 100^{th} term of 9n + 8?

Explore

How could you count the total coloured squares in the growing pattern?

How many squares will be coloured in the next term?

How many squares will be coloured in the 10th term?