



Maths-it Podcast H-11

Higher GCSE Revision

Sequences

Topics

Generate a sequence from term to term or position to term rules

Find the n th term of a linear sequence

Generate common sequences, squares, cubes, powers of 2, etc.

Questions

1. Here are the first 4 terms of an arithmetic sequence

1 7 13 19

Find an expression, in terms of n , for the n th term of the sequence.

.....
(Total 2 marks)

2. Here are the first five terms of an arithmetic sequence.

-11 -3 5 13 21

- (a) Find, in terms of n , an expression for the n th term of this sequence.

..... (2)

In another arithmetic sequence the n th term is $4n - 2$

John says that there is a number that is in both sequences.

- (b) Explain why John is wrong.

.....
.....
..... (2)
(Total 4 marks)

3. The first four terms of an arithmetic sequence are

21 17 13 9

- (a) Find, in terms of n , an expression for the n th term of this sequence.

..... (2)

- (b) Hence find the 50th term of this sequence

..... (1)
(Total 3 marks)

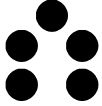


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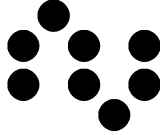
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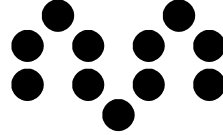
4. Here are some patterns made from dots.



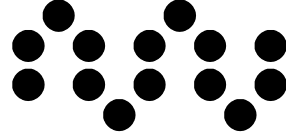
Pattern 1



Pattern 2



Pattern 3



Pattern 4

Write down a formula for the number of dots, d , in terms of the Pattern number, n .

(Total 2 marks)

5. Here are some terms in a number sequence

	1
	1
1+1	2
1+2	3
2+3	5
3+5	8
5+8
.....
.....

(a) Complete the table.

(3)

Here is a similar number pattern,

1, 4, 5, 9, 14, 23, ...

(b) Write down the next two terms in the sequence.

..... ,

(2)

(Total 5 marks)