EXAM PAPERS PRACTICE

GCSE AQA Math 8300

Sequences

Question Paper

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EXAM PAPERS PRACTICE

Question 1

The nth term of a different arithmetic sequence is $3n + 5$

(b) Is 108 a term of this sequence?

Show how you get your answer.

[2 marks]

Question 2

(c) Write down an expression, in terms of n, for the $(n + 1)$th term of this sequence.

[1 mark]

Question 3

Here are the first five terms of an arithmetic sequence.

2 5 8 11 14

(a) Write down an expression, in terms of n, for the nth term of this sequence.

[2 marks]

Question 4

Here are the first four terms of an arithmetic sequence.

11 17 23 29

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

[2 marks]

Question 5

Here are the first five terms of an arithmetic sequence.

2 6 10 14 18

(a) Write down an expression, in terms of n, for the nth term of this sequence.

[2 marks]

Question 6

Ben says that 150 is in the sequence.

(b) Is Ben right?

You must explain your answer.

[1 mark]

Question 7

(b) Is 121 a term of this arithmetic sequence?
You must explain your answer.

[2 marks]

Question 8

Here are the first five terms of an arithmetic sequence.

4 9 14 19 24

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

[2 marks]

Question 9

Here are the first 5 terms of a quadratic sequence.

1 3 7 13 21

Find an expression, in terms of n, for the nth term of this quadratic sequence.

[3 marks]

Question 10

(b) The 3rd term of this sequence is 21 and the 6th term is 96.

Find the value of a and the value of b.
You must show all your working.

[4 marks]

Question 11

The nth term of a number sequence is $n^2 + 1$

Write down the first three terms of the sequence.

[2 marks]

Question 12

The nth term of a sequence is $an^2 + bn$.

(a) Write down an expression, in terms of a and b, for the 3rd term.

[1 mark]

Question 13

Here are the first five terms of a different sequence.

2 2 0 –4 –10

An expression for the nth term of this sequence is $3n - n^2$

(b) Write down, in terms of n, an expression for the nth term of a sequence whose first five terms are

4 4 0 –8 –20

[1 mark]

Question 14

(b) Show that the 5th term of S is $7 + 5\sqrt{2}$

[2 marks]

Question 15

The population of bacteria in flask A at the start of the 10th day is k times the population of bacteria in flask A at the start of the 6th day.

(b) Find the value of k.

[2 marks]