A208 Quadratic sequences

Q1.

Here are the first four terms of a quadratic sequence.

3 8 15 24

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

.....

(3)

The nth term of a different sequence is $2^n + 5$

(b) Show that 36 is **not** a term of this sequence.

.....

.....

(1)

(Total for question = 4 marks)

Q2.

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.

.....

(Total for question is 3 marks)

Q3.

Here are the first five terms of a sequence.

4 11 22 37 56

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

.....

(Total for question = 3 marks)

Q4.

Here are the first 7 terms of a quadratic sequence.

3 6 11 18 27 38 51

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

.....

(2)

(b) Find the 50th term of this sequence.

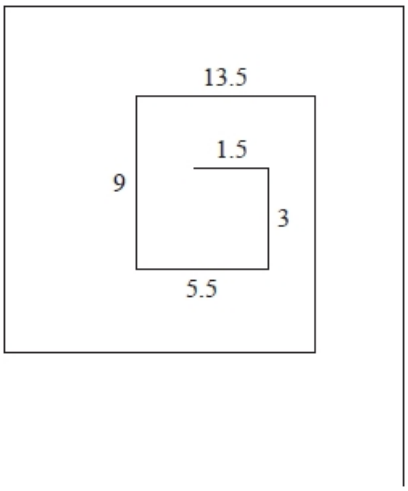
.....

(1)

(Total for question = 3 marks)

Q5.

The diagram shows the first 10 sides of a spiral pattern.
It also gives the lengths, in cm, of the first 5 sides.



The lengths, in cm, of the sides of the spiral form a sequence.

Find an expression in terms of n for the length, in cm, of the nth side.

.....

(Total for question = 3 marks)

Q6.

The nth term of a sequence is given by $an^2 + bn$ where a and b are integers.

The 2nd term of the sequence is –2
The 4th term of the sequence is 12

(a) Find the 6th term of the sequence.

.....

(4)

Here are the first five terms of a different quadratic sequence.

0 2 6 12 20

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

.....

(2)

(Total for question = 6 marks)

Q7.

Here are the first six terms of a quadratic sequence.

−1 5 15 29 47 69

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

.....

(Total for question = 3 marks)