



Lite GCSE Maths

Sequences 1

Name: _____

Class: _____

Author:

Date:

Time: 34

Marks: 32

Comments:

Q1. (a) A sequence starts

2, 7, 17,

The rule for finding the next term in this sequence is to multiply the previous term by 2 and then add on 3

Work out the next term.

.....
.....

Answer

(1)

(b) The rule for finding the next term in a different sequence is to multiply the previous term by 2 and then add on a , where a is an integer.

The first term is 8 and the fourth term is 127

8 127

Work out the value of a .

.....
.....
.....
.....
.....
.....
.....

Answer $a =$

(4)

(Total 5 marks)

Q2. (a) Here is a sequence of numbers.

8 15 22 29 36

Write down the next number in the sequence.

.....

Answer

(1)

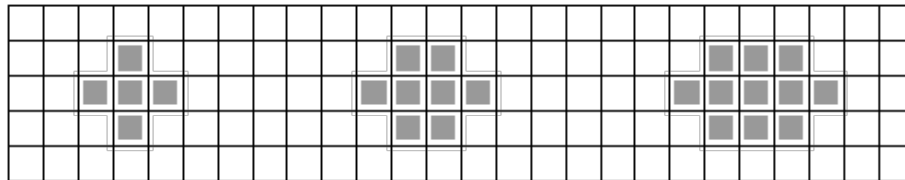
(b) Here is a different sequence of numbers.

1 2 4 8 16

Circle the square numbers in this sequence.

(2)
(Total 3 marks)

Q3. Square tiles are used to make patterns on a grid.



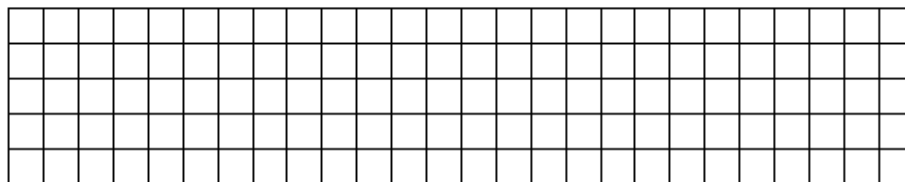
Pattern 1

Pattern 2

Pattern 3

(a) The pattern continues in the same way.

Draw Pattern 4



(1)

(b) (i) Complete this table.

Pattern Number	1	2	3	4	5
Number of tiles	5	8			

(1)

(ii) How many tiles are in Pattern 9?

.....

.....

Answer

(1)

(c) There are 302 tiles in Pattern 100.

How many tiles are in Pattern 99?

.....

Answer

(1)
(Total 4 marks)

Q4. The rule for this sequence is that each term is the mean of the two previous terms.

$$\boxed{a} \quad x \quad y \quad \frac{x+y}{2} \quad \boxed{b}$$

(a) Find an expression for a in terms of x and y .

.....
.....
.....

Answer

(2)

(b) Find an expression for b in terms of x and y .
Simplify your answer.

.....
.....
.....

Answer

(2)
(Total 4 marks)

Q5. This question is about sequences that start 1, 4 ...

(a) Here are the first three terms of a sequence

1 4 16 ...

The rule for continuing this sequence is

Multiply by 4

What is the next term?

.....

Answer

(1)

(b) Another sequence uses a pattern of dots.

Here are the first three patterns.

•

Pattern 1

•
• •
•

Pattern 2

•
•
• • •
•
•

Pattern 3

(i) Draw Pattern 4

(1)

(ii) How many dots are in Pattern 5?

.....

Answer

(1)

(c) Here are the first five terms of a different sequence

1 4 8 13 19 ...

What is the next term?

.....
.....

Answer

(1)
(Total 4 marks)

Q6. Here is a sequence of numbers

4 7 10 13

(a) Write down the next term in the sequence.

.....

Answer

(1)

(b) Write down the rule for continuing the sequence.

.....

Answer

(1)
(Total 2 marks)

Q7. (a) A sequence starts

2 7 17

The rule for finding the next term in this sequence is to multiply the previous term by 2 and then add on 3

Work out the next term.

.....
.....

Answer

(1)

- (b) The rule for finding the next term in a different sequence is to multiply the previous term by 2 and then add on a , where a is an integer.

The first term is 8 and the fourth term is 127

8 127

Work out the value of a .

.....
.....
.....
.....
.....
.....
.....

Answer $a =$

(4)
(Total 5 marks)

- Q8.** (a) The rule for the next term of a sequence is

Multiply the previous term by three and subtract one.

The first two terms of the sequence are 2 and 5.

Write down the next **two** terms.

.....
.....

Answer 2 5

(2)

- (b) The n th term of a different sequence is $5n$.

The first term is 5

Write down the next **three** terms.

Answer 5

(1)

(c) Work out the n th term of this sequence.

7 10 13 16 19

.....

Answer

(2)
(Total 5 marks)

