Algebra - Sequences

Q1

(a) Here is a sequence of patterns.

Pattern 1 **Pattern 2** **Pattern 3** **Pattern 4**

(i) Draw **Pattern 4** in the space above. **[1]**

(ii) Complete this table.

Pattern number	1	2	3	4	5
Number of dots	3	5	7		

[1]

(b) **(i)** Write down the next term in this sequence.

3 6 9 12 15 _____ **[1]**

(ii) Explain in words how you worked out your answer.

_____

_____ **[1]**

(c) **(i)** Write down the next two terms in this sequence.

72 36 18 _____ _____

..... **[2]**

(ii) Explain in words how you worked out your answer.

_____

_____ **[1]**

Algebra - Sequences

Q2

Here are the first four terms of an arithmetic sequence.

5 8 11 14

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

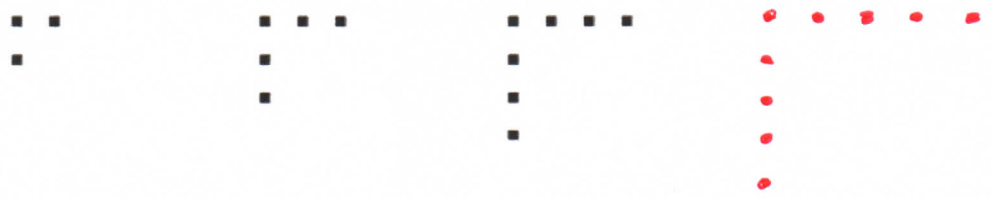
(2)

Algebra - Sequences

Q1

(a) Here is a sequence of patterns.

Pattern 1 **Pattern 2** **Pattern 3** **Pattern 4**



(i) Draw **Pattern 4** in the space above. **[1]**

(ii) Complete this table.

Pattern number	1	2	3	4	5
Number of dots	3	5	7	9	11

[1]

(b) **(i)** Write down the next term in this sequence.

3 6 9 12 15 18 **[1]**

(ii) Explain in words how you worked out your answer.

Add 3 to previous term

[1]

(c) **(i)** Write down the next two terms in this sequence.

72 36 18 9 4·5

[2]

(ii) Explain in words how you worked out your answer.

Each term is half of the previous term

[1]

Algebra - Sequences

Q2

Here are the first four terms of an arithmetic sequence.

3	6	9	12
5	8	11	14

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

Rule is add 3 so n^{th} term contains $3n$

Adjustment of +2 is required to align above sequences

n^{th} term $= 3n + 2$

(2)