

Sequences – GCSE Mathematics Paper 3

1. No.24

A is an **arithmetic** progression.

Here are the first four terms.

13

16

19

22

G is a **geometric** progression.

Here are the first four terms.

2

4

8

16

$$n\text{th term of A} = 8\text{th term of G}$$

Work out the value of n .**[4 marks]**

$$n = \underline{\hspace{10em}}$$

2. No.7

A is an **arithmetic** progression.

Here are the first four terms.

13

16

19

22

G is a **geometric** progression.

Here are the first four terms.

2

4

8

16

$$n\text{th term of A} = 8\text{th term of G}$$

Work out the value of n .

[4 marks]

$$n = \underline{\hspace{10em}}$$

3. No.10

The mass of a baby is 3.6 kilograms to 1 decimal place.

What is the error interval for the mass in kilograms?

Tick **one** box.

[1 mark]

☐

$$3.5 \leq \text{mass} \leq 3.6$$

☐

$$3.55 \leq \text{mass} \leq 3.65$$

☐

$$3.5 \leq \text{mass} < 3.6$$

☐

$$3.55 \leq \text{mass} < 3.65$$

4. No.20

The n th term of a sequence is $19 - 4n$

What is the **smallest** value of n that gives a negative term?

[2 marks]

Answer _____

5. No.22

A sequence of patterns is made using horizontal sticks and vertical sticks.

Pattern 1



Pattern 2



Pattern 3



The table shows the number of horizontal sticks and vertical sticks in each pattern.

Pattern	Number of horizontal sticks	Number of vertical sticks
1	2	2
2	4	3
3	6	4

What fraction of the total number of sticks in Pattern n are horizontal?

Give your answer in terms of n .

[3 marks]

Answer _____