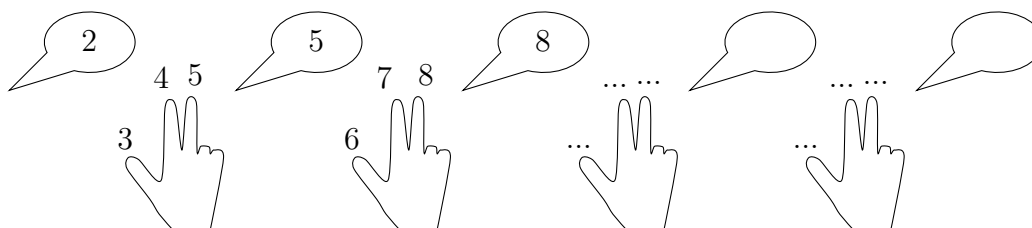1. The sequence in the speech bubbles has a term to term rule of + 3

Complete the next two terms.

2. Complete the requested information for these two arithmetic sequences.

(a)   1   5   9   13   ...

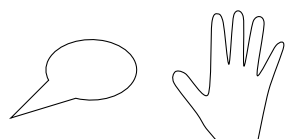(i) term to term rule is ... .

(ii) complete the 5th term

(b)   1   6   11   16   ...

Scaffold

(i) term to term rule is ... .

(ii) complete the 5th term
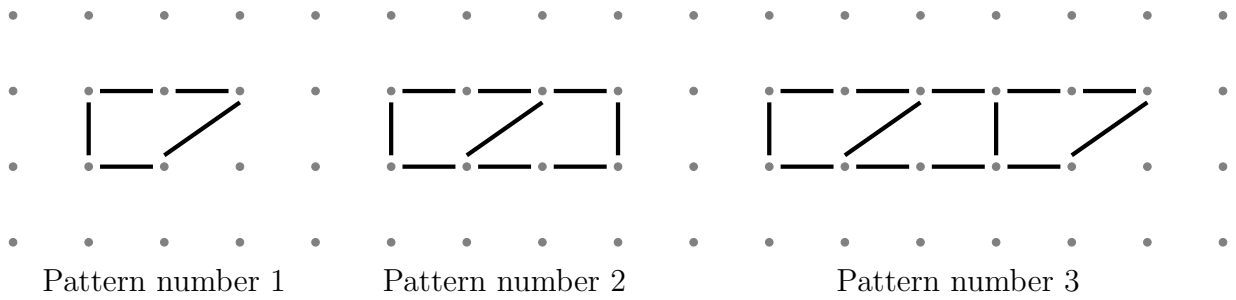
3. Here are the first five terms of an arithmetic sequence.

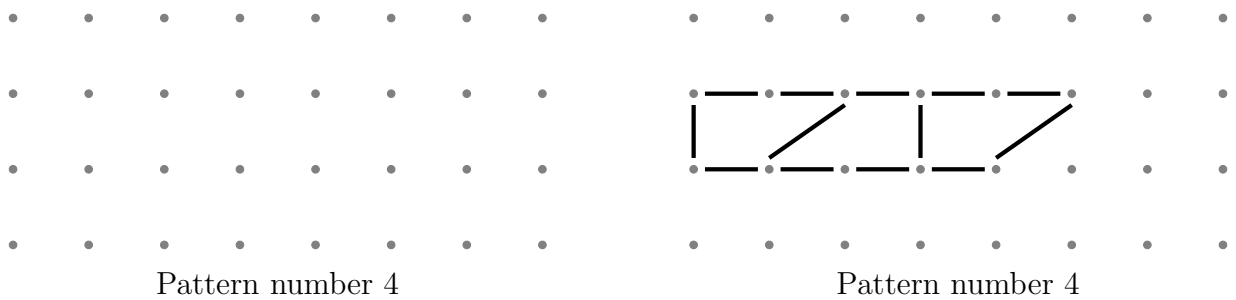   5   9   13   17   21

(i) Write down the term to term rule of the sequence

(ii) Write down the next term of the sequence

4. Here is part of a sequence of patterns made from sticks.

Pattern number 1   Pattern number 2   Pattern number 3

(a) In the space, below draw Pattern number 4 {OR ... **complete** Pattern number 4 }

Pattern number 4   Pattern number 4

(b) Complete the table

Pattern number	1	2	3	4	5
Number of sticks	5	9	13		

5. (a) Here are the first five terms in a sequence.

$$16 \qquad 13 \qquad 10 \qquad 7 \qquad 4$$

Write down the 8th term of the sequence.

(b) Here are the first four terms in a number sequence.

$$33 \qquad 27 \qquad 21 \qquad 15$$

(i) Write down the term to term rule of the sequence . . . .

(ii) Write down the next term of the sequence   . . . . .

6. Here are the first five terms of a sequence.

$$5 \qquad 10 \qquad 15 \qquad 20 \qquad 25$$

An expression for the nth term of this sequence is $5n$

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

$$7 \qquad 12 \qquad 17 \qquad 22 \qquad 27$$
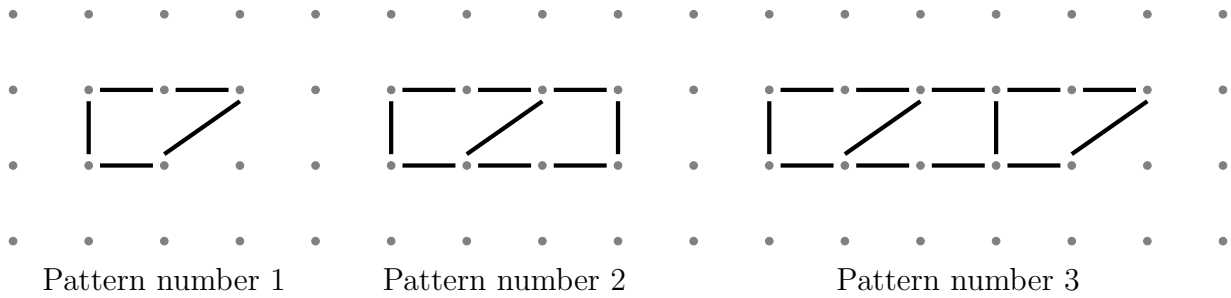
7. Here are the first five terms of a sequence.

    3   6   9   12   15

    Write down an expression for the nth term of this sequence.

8. Here are the first three patterns in a sequence.
   The patterns are made of sticks.

   Pattern number 1   Pattern number 2   Pattern number 3

   How many sticks are there in pattern number 7?

9. Here are the first five terms of an arithmetic sequence.

    2   8   14   20   26

    Find the 8th term of this sequence.

10. Here are the first five terms of an arithmetic sequence.

    2   8   14   20   26

    (a) Noah thinks that the number 64 is in this sequence.
        Is Noah correct?
        You must show how you get your answer.
    (b) Is 64 a term of the sequence?
        Explain how you got your answer.

11. Here are the first four terms of an arithmetic sequence.

    5   8   11   14

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

12. (a) Write down the 19th odd number.

    (b) These five even numbers form an arithmetic sequence

$$2 \qquad 4 \qquad 6 \qquad 8 \qquad 10$$

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

       (ii) Write down the 25th even number   . . . .

    (c) An expression for the nth term of this sequence of even numbers is $2n$

$$2 \qquad 4 \qquad 6 \qquad 8 \qquad 10$$

    Write down

    (i) an expression, in terms of n, for the nth term of this sequence of odd numbers

$$1 \qquad 3 \qquad 5 \qquad 7 \qquad 9 \qquad\qquad\qquad . . . .$$

    (ii) the 14th odd number   . . . .

13. The nth term of a number sequence is given by $3n + 1$.

Work out the first **four** terms of the number sequence

14. The nth term of a number sequence is given by $7n - 4$.

Is 120 a term of this number sequence?

Explain how you get your answer.

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