GCSE FOUNDATION · REVISION MAT 2

Generating sequences

1 Here are the first four terms of a sequence.

23, 20, 17, 14, ...

(a) Write down the next two terms.

(b) Write down the term-to-term rule.

2 The nth term of a sequence is $3n + 5$

(a) Work out the first three terms.

(b) Work out the 10th term.

3 Here is a sequence.

5, 11, 17, 23, ...

Is 71 a term in this sequence?
Explain your answer.

4 The rule for a sequence is

"multiply by 3, then add 1"

The first term is 2.

Show that the 5th term is 202.

5 Here are some patterns made from sticks.



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

(a) How many sticks are needed for pattern 15?

(b) Which pattern uses 51 sticks?

6 In a sequence, each term is the sum of the two terms before it.

The 1st term is 3. The 4th term is 19.

Find the 2nd and 3rd terms.

Mr&Mrs MATHS

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Generating sequences

1 (a) **11, 8**

(b) **Subtract 3**

2 (a) **8, 11, 14**

(b) **35**

3 nth term = $6n - 1$

$6n - 1 = 71$ gives $n = 12$

Yes, it is the 12th term.

4 **2 → 7 → 22 → 67 → 202** ✓

5 Sticks go up by 2 each time: nth term $2n + 1$

(a) **31**

(b) **Pattern 25**

6 Terms: 3, b, $3 + b$, $3 + 2b$

$3 + 2b = 19$, so $b = 8$

2nd = **8**, 3rd = **11**