GCSE FOUNDATION · REVISION MAT 3

Generating sequences

1 Here are the first four terms of a sequence.

2, 9, 16, 23, ...

(a) Write down the next two terms.

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

2 The nth term of a sequence is $6n - 4$

(a) Work out the first three terms.

(b) Work out the 10th term.

3 Here is a sequence.

2, 7, 12, 17, ...

Is 49 a term in this sequence?
Explain your answer.

4 The rule for a sequence is

"multiply by 2, then subtract 3"

The first term is 5.

Show that the 5th term is 35.

5 Here are some patterns made from sticks.



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

(a) How many sticks are needed for pattern 20?

(b) Which pattern uses 100 sticks?

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

The 1st term is 5. The 4th term is 31.

Find the 2nd and 3rd terms.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Generating sequences

1 (a) **30, 37**

(b) **Add 7**

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

(b) **56**

3 nth term = $5n - 3$

$5n - 3 = 49$ gives $n = 10\frac{2}{5}$

No, because n is not a whole number.

4 **5 → 7 → 11 → 19 → 35** ✓

5 Sticks go up by 3 each time: nth term $3n + 1$

(a) **61**

(b) **Pattern 33**

6 Terms: 5, b, $5 + b$, $5 + 2b$

$5 + 2b = 31$, so $b = 13$

2nd = **13**, 3rd = **18**