GCSE FOUNDATION · REVISION MAT 1

Generating sequences

1 Here are the first four terms of a sequence.

5, 9, 13, 17, ...

(a) Write down the next two terms.

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

2 The nth term of a sequence is $4n - 1$

(a) Work out the first three terms.

(b) Work out the 10th term.

3 Here is a sequence.

3, 7, 11, 15, ...

Is 50 a term in this sequence?
Explain your answer.

4 The rule for a sequence is

"multiply by 2, then subtract 1"

The first term is 3.

Show that the 5th term is 33.

5 Here are some patterns made from sticks.



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

(a) How many sticks are needed for pattern 10?

(b) Which pattern uses 61 sticks?

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

The 1st term is 4. The 4th term is 22.

Find the 2nd and 3rd terms.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Generating sequences

1 (a) **21, 25**

(b) **Add 4**

2 (a) **3, 7, 11**

(b) **39**

3 nth term = $4n - 1$

$4n - 1 = 50$ gives $n = 12\frac{3}{4}$

No, because n is not a whole number.

4 **3 → 5 → 9 → 17 → 33** ✓

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

(a) **31**

(b) **Pattern 20**

6 Terms: $4, b, 4 + b, 4 + 2b$

$4 + 2b = 22$, so $b = 9$

2nd = **9**, 3rd = **13**

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