

1 Term to term rules

- a) 5, 9, 13, 17, ... Write the rule and the next two terms.
b) 50, 45, 40, 35, ... Write the rule and the next term.

a) add 4: 21, 25
b) subtract 5: 30

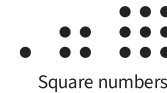
2 Term to term rules: missing terms

- a) Fill in the missing term. 2, , 12, 17
b) The rule is add 6. The 4th term is 25. What is the 3rd term?

a) add 5: 7
b) $25 - 6 = 19$

3 Square and triangular numbers

- a) How many dots will Pattern 4 have in each sequence?
b) Which of these are triangular numbers?
6, 8, 10, 12, 15



Square numbers



Triangular numbers

a) square: $4 \times 4 = 16$
triangular: $6 + 4 = 10$
b) 6, 10, 15

4 Fibonacci type sequences

Each term is the sum of the two terms before it.

- a) 2, 2, 4, 6, 10, ... Write the next two terms.
b) Fill in the missing term. 3, 4, 7, , 18

a) $6 + 10 = 16$, $10 + 16 = 26$
b) $4 + 7 = 11$

Sequences revision mat answers

Foundation B

5 The n th term: finding it

Find the n th term of each sequence.

- a) 5, 10, 15, 20, ...
b) 7, 12, 17, 22, ... (Compare it with part a.)

a) the 5 times table: $5n$
b) 2 more each time: $5n + 2$

6 The n th term: using it

The n th term of a sequence is $3n + 2$.

- a) Work out the first three terms.
b) Work out the 10th term.

a) $3 \times 1 + 2 = 5$: 5, 8, 11
b) $3 \times 10 + 2 = 32$

7 The n th term: patterns

Here are patterns made from sticks.

- a) How many sticks are in Pattern 4?
b) Fill in the box. Sticks in Pattern $n = 3n + \text{$



Pattern 1



Pattern 2



Pattern 3

a) 4, 7, 10, add 3: 13
b) $3 \times 1 = 3$, $4 - 3 = 1$: $3n + 1$

8 Types of sequences

P 1, 3, 6, 10, ... Q 9, 12, 15, 18, ...

- a) Is each sequence linear, square or triangular?
b) Write the next term of each sequence.

a) P triangular, Q linear
b) P 15, Q 21