



Types of Sequences



REVISE THIS TOPIC



1 The first two terms of a sequence are

2 6 ...

1 (a) Michael assumes the sequence is an arithmetic progression. Using Michael's assumption, work out the next two terms. [2 marks]

2 → +4 → 6 → +4 → 10 → +4 → 14

Answer 10 and 14

1 (b) Jess assumes the sequence is a geometric progression. Using Jess's assumption, work out the next two terms. [2 marks]

2 → x3 → 6 → x3 → 18 → x3 → 54

Answer 18 and 54

1 (c) Gabby assumes the sequence is a Fibonacci-type sequence. Using Gabby's assumption, work out the next two terms. [2 marks]

2 6 8 14

Answer 8 and 14





2 The first two terms of a geometric progression are

20 10 ...

Work out the 4th term.

[2 marks]

20 $\xrightarrow{\div 2}$ 10 $\xrightarrow{\div 2}$ 5 $\xrightarrow{\div 2}$ 2.5

Answer

2.5

3 The first two terms of a Fibonacci-type sequence are

2 5 ...

Work out the 4th term.

[2 marks]

2 5 7 12

Answer

12

4 The first two terms of a linear sequence are

2 4 ...

Work out the 4th term.

[2 marks]

2 $\xrightarrow{+2}$ 4 $\xrightarrow{+2}$ 6 $\xrightarrow{+2}$ 8

Answer

8





5 The first two terms of a Fibonacci-type sequence are

1 3 ...

Work out the 4th term.

[2 marks]

1 3 4 7

Answer 7

6 The first two terms of an arithmetic progression are

3 9 ...

Work out the 4th term.

[2 marks]

3 9 15 21
+6 +6 +6

Answer 21

7 The first two terms of a geometric progression are

8 16 ...

Work out the 4th term.

[2 marks]

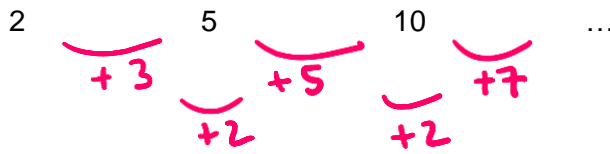
8 16 32 64
x2 x2 x2

Answer 64





8 The first three terms of a quadratic sequence are

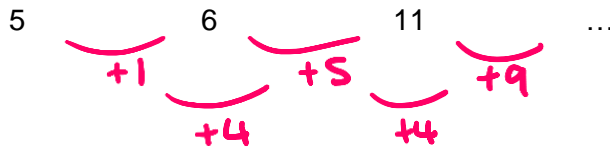


Work out the 4th term of the sequence.

[2 marks]

Answer 17

9 The first three terms of a quadratic sequence are



Work out the 4th term of the sequence.

[2 marks]

Answer 20





10 The first three terms of a quadratic sequence are

8 18 30 ...

Work out the 5th term of the sequence.

[3 marks]

8 18 30 44 60

 +10 +12 +14 +16

 +2 +2 +2

Answer 60

11 The first three terms of a quadratic sequence are

30 22 9 ...

Work out the 5th term of the sequence.

[3 marks]

30 22 9 -9 -32

 -8 -13 -18 -23

 -5 -5 -5

Answer -32





12 The third and fourth terms of a geometric progression are shown below

... .. 12 24

Work out the 1st term.

[2 marks]

$3 \xrightarrow{\div 2} 6 \xrightarrow{\div 2} 12 \xrightarrow{\div 2} 24$

Answer 3

13 The third and fourth terms of an arithmetic progression are shown below

... .. 5 15

Work out the 1st term.

[2 marks]

$-15 \xrightarrow{-10} -5 \xrightarrow{-10} 5 \xrightarrow{-10} 15$

Answer -15

14 The third and fourth terms of a Fibonacci-style sequence are shown below

... .. 10 16

Work out the 1st term.

[2 marks]

$16 - 10 = 6$
 $10 - 6 = 4$

Answer 4





15

Match the name to the correct sequence.
One has been done for you.

[3 marks]

Name	Sequence
Linear Sequence	2 4 6 8 10
Quadratic Sequence	2 4 8 16 32
Fibonacci Sequence	2 4 6 10 12
Geometric Sequence	2 4 6 12 24
	2 4 8 14 22
	2 4 6 10 16

