

## Types of Sequences





CHECK YOU'R **ANSWERS** 



| 1 | Here are the first two terms of a sequence                                                                           |     |
|---|----------------------------------------------------------------------------------------------------------------------|-----|
|   |                                                                                                                      |     |
|   | 2 6                                                                                                                  |     |
|   | (a) Michael assumes the sequence is an arithmetic sequence. Using Michael's assumption, work out the next two terms. |     |
|   |                                                                                                                      |     |
|   |                                                                                                                      |     |
|   |                                                                                                                      |     |
|   | (b) Jess assumes the sequence is a geometric sequence.                                                               | (2) |
|   | Using Jess's assumption, work out the next two terms.                                                                |     |
|   |                                                                                                                      |     |
|   |                                                                                                                      |     |
|   |                                                                                                                      |     |
|   |                                                                                                                      |     |
|   |                                                                                                                      |     |
|   | (c) Gabby assumes the sequence is a Fibonacci sequence. Using Gabby's assumption, work out the next two terms.       | (2) |
|   | coming ducoy's assumption, work out the next two terms.                                                              |     |
|   |                                                                                                                      |     |
|   |                                                                                                                      |     |
|   |                                                                                                                      |     |
|   |                                                                                                                      |     |
|   |                                                                                                                      |     |



(Total for Question 1 is 6 marks)

| 2   | Here are the first two terms of a geometric sequence |                   |               |                                   |
|-----|------------------------------------------------------|-------------------|---------------|-----------------------------------|
|     |                                                      | 20                | 10            |                                   |
|     | Work out the 4th term                                | of the sequence.  |               |                                   |
|     |                                                      | 1                 |               |                                   |
|     |                                                      |                   |               |                                   |
|     |                                                      |                   |               |                                   |
|     |                                                      |                   |               |                                   |
|     |                                                      |                   |               | (Total for Question 2 is 2 marks) |
| 3   | Here are the first two                               | terms of a Fibona | acci sequence |                                   |
|     |                                                      | 2                 | 5             |                                   |
|     | Work out the 4th term                                | of the sequence   |               |                                   |
|     | Work out the 1th term                                | for the sequence  | •             |                                   |
|     |                                                      |                   |               |                                   |
|     |                                                      |                   |               |                                   |
|     |                                                      |                   |               |                                   |
|     |                                                      |                   |               | (Total for Question 3 is 2 marks) |
| 4   |                                                      |                   |               |                                   |
|     |                                                      | 2                 | 4             |                                   |
|     | Work out the 4th term                                | of the sequence   |               |                                   |
|     | Work out the 4th term                                | of the sequence.  |               |                                   |
|     |                                                      |                   |               |                                   |
|     |                                                      |                   |               |                                   |
|     |                                                      |                   |               |                                   |
| 1st |                                                      |                   |               | (Total for Question 4 is 2 marks) |

| 5   | 5 Here are the first two terms of a Fibonacci sequence |                    |                |                                   |
|-----|--------------------------------------------------------|--------------------|----------------|-----------------------------------|
|     |                                                        | 1                  | 3              |                                   |
|     | Work out the 4th term                                  | n of the sequence. |                |                                   |
|     |                                                        | 1                  |                |                                   |
|     |                                                        |                    |                |                                   |
|     |                                                        |                    |                |                                   |
|     |                                                        |                    |                |                                   |
|     |                                                        |                    |                | (Total for Question 5 is 2 marks) |
| 6   | Here are the first two                                 | terms of an arith  | metic sequence |                                   |
|     |                                                        | 3                  | 9              |                                   |
|     | Work out the 4th terr                                  | n of the sequence  | ı.             |                                   |
|     | ,, 0211 0 000 0110 1011 0011                           | or soquo           |                |                                   |
|     |                                                        |                    |                |                                   |
|     |                                                        |                    |                |                                   |
|     |                                                        |                    |                |                                   |
|     |                                                        |                    |                | (Total for Question 6 is 2 marks) |
| 7   | Here are the first two                                 | terms of a geome   | etric sequence | (10milor Question o is 2 maries)  |
|     |                                                        | 8                  | 16             |                                   |
|     | Work out the 4th town                                  | n of the sequence  |                |                                   |
|     | Work out the 4th term                                  | n of the sequence. | •              |                                   |
|     |                                                        |                    |                |                                   |
|     |                                                        |                    |                |                                   |
|     |                                                        |                    |                |                                   |
| 1st |                                                        |                    |                | (T-4-16 O4' 7: 2                  |
|     |                                                        |                    |                | (Total for Question 7 is 2 marks) |

| 8 | Here are the | e first three | terms of a | quadratic sequence |
|---|--------------|---------------|------------|--------------------|

2

5

10

Work out the 4th term of the sequence.

## $(Total\ for\ Question\ 8\ is\ 2\ marks)$

9 Here are the first three terms of a quadratic sequence

5

6

11

Work out the 4th term of the sequence.



(Total for Question 9 is 2 marks)



10 Here are the first three terms of a quadratic sequence

8

18

30

Work out the 5th term of the sequence.

## (Total for Question 10 is 3 marks)

11 Here are the first three terms of a quadratic sequence

30

22

9

Work out the 5th term of the sequence.



(Total for Question 11 is 3 marks)

| 2 The third and | d fourth terms    | of a geometric s  | equence are s | hown below.            |                   |
|-----------------|-------------------|-------------------|---------------|------------------------|-------------------|
|                 |                   |                   | 12            | 24                     |                   |
| Work out the    | e 1st term of the | e sequence.       |               |                        |                   |
|                 |                   |                   |               |                        |                   |
|                 |                   |                   |               |                        |                   |
|                 |                   |                   |               |                        |                   |
|                 |                   |                   |               |                        |                   |
|                 |                   |                   |               | (Total for Question 12 | 2 is 2 marks)     |
| 3 The third an  | d fourth terms    | of an arithmetic  | sequence are  | shown below.           |                   |
|                 | •••               |                   | 5             | 15                     |                   |
| Work out th     | e 1st term of th  | e sequence.       |               |                        |                   |
|                 |                   | •                 |               |                        |                   |
|                 |                   |                   |               |                        |                   |
|                 |                   |                   |               |                        |                   |
|                 |                   |                   |               |                        |                   |
|                 |                   |                   |               | (Total for Question 13 | <br>3 is 2 marks) |
| 4 The third and | d fourth terms    | of a Fibonacci so | equence are s |                        |                   |
|                 |                   |                   | 10            | 16                     |                   |
| Work out the    | e 1st term of the | e seguence        |               |                        |                   |
| Work out the    |                   | e sequence.       |               |                        |                   |
|                 |                   |                   |               |                        |                   |
|                 |                   |                   |               |                        |                   |
|                 |                   |                   |               |                        |                   |
|                 |                   |                   |               |                        |                   |



(Total for Question 14 is 2 marks)



**15** Here are some sequences.

Sequence A

Sequence B

Sequence C

2 4 6 8 10

2 4 8 16 32

2 4 6 10 12

Sequence **D** 

Sequence E

Sequence **F** 

2 4 6 12 24

2 4 8 14 22

2 4 6 10 16

Match each type of sequence in the table to the correct sequence above.

| Type of Sequence    | Sequence Letter |
|---------------------|-----------------|
| Arithmetic Sequence |                 |
| Quadratic Sequence  |                 |
| Geometric Sequence  |                 |
| Fibonacci Sequence  |                 |



Solutions