

Summer Term Maths Year 10

Explore Geometric and Arithmetic sequences

Day
1

Week 12

- 1 a) Explain why this sequence is an example of an arithmetic sequence.

7, 12, 17, 22, 27, ...

- b) What is the next term in the sequence?

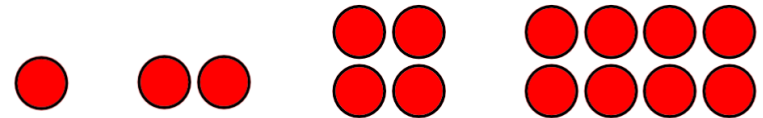
- 2 For each of the arithmetic sequences, write the next term and find the common difference.

- a) 11, 15, 19, 23, ...
b) -4, -8, -12, -16, ...
c) 66, 77, 88, 99, ...
d) 15, 4, -7, -18, ...
e) 2.5, 2.8, 3.1, 3.4, ...

- 3 Write the first 6 terms of the arithmetic sequence for each of the following.

- a) First term 3, common difference -4
b) First term 3 common difference 0.25
c) Second term 8, common difference 3
d) First term a , common difference 3

- 4 Here is a sequence of counters.



- a) Draw the next pattern.
b) Is the sequence arithmetic? Explain your answer.

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- 5 a) Explain why this sequence is an example of a geometric sequence.

1, 2, 4, 8, 16, ...

- b) What is the next term in the sequence?

- 6 Find the common ratio for each of the geometric sequences and write the next 2 terms.

- a) 1, 3, 9, 27, ...
b) 4, 12, 36, 108, ...
c) 5, 50, 500, 5000, ...
d) 20, 10, 5, 2.5, ...

- 7 Write the first 4 terms of the geometric sequences for each of the following.

- a) First term 100, common ratio 2
b) First term 100, common ratio 0.5
c) First term 50, common ratio 0.5
d) First term 50, common ratio 5

- 8 Here is part of a sequence with two terms missing.

..., 3, , , 648, ...

Find the missing terms if the sequence

- a) is geometric
b) is arithmetic