2.15 Linear Sequences and the nth Term: 10-minute Pack

Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Here are the first five terms of an arithmetic sequence.
0, 8, 16, 24, 32
Find an expression for the nth term.

(2)

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2 The nth term of a sequence is 9n + 4.
Write down the first three terms of the sequence.

(2)

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3 The nth term of a sequence is 8n + 6.
Find the first term of the sequence that is greater than 500.

(3)

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4 State the term-to-term rule for each sequence.

(a) Sequence: 3, 6, 9, 12, ... **(1)**

(b) Sequence: 50, 45, 40, 35, ... **(1)**

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Question 1

common difference 8 identified (or 8n in the expression)	**M1**
8n - 8 cao	**A1**

Answer: **nth term = 8n - 8**

Question 2

substitutes n = 1, 2 or 3 correctly for at least one term	**M1**
13, 22, 31 cao	**A1**

Answer: **13, 22, 31**

Question 3

8n + 6 = 500 or 8n + 6 > 500 used, or a trial of values	**M1**
n = 62 identified, or the terms either side of 500 found	**M1**
502 cao	**A1**

Answer: **502**

Question 4

(a) add 3 each time cao	**B1**

(a) Answer: **Add 3 each time**

(b) subtract 5 each time cao	**B1**

(b) Answer: **Subtract 5 each time**

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