

A58 (H)... Sequence problem solve

OCR

EDEXCEL

16 The n th term of a sequence is given by $an^2 + bn$ where a and b are integers.

AS8 The 2nd term of the sequence is -2

A40 The 4th term of the sequence is 12

(a) Find the 6th term of the sequence.

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16 The n th term of a sequence is given by $an^2 + bn$ where a and b are integers. $12 - (-4) = 16$

A58 The 2nd term of the sequence is -2

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(a) Find the 6th term of the sequence.

2nd

$$an^2 + bn = -2$$

$$a4 + b2 = -2$$

$$4a + 2b = -2$$

4th

$$an^2 + bn = 12$$

$$16a + 4b = 12$$

$$4a + 2b = -2 \quad \times 2$$

$$16a + 4b = 12$$

SSS

$$- 8a + 4b = -4$$

$$8a = 16$$

$$a = 2$$

$$16a + 4b = 12$$

$$32 + \boxed{-20} = 12 \quad \dots b = -5$$

$$an^2 + bn$$

$$2n^2 - 5n$$

$$72 + -30$$

6th

$$42 \checkmark$$

(4)

AQA