

The Panda Math Tutor

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Sequences

Student Worksheet
Questions & Working Space
IGCSE Mathematics

Name: _____

Date: _____

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Teach → Practice → Reason → Apply → Challenge → Master

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Note

How to use this worksheet. These questions are built *strictly* on the *Sequences* notes: key definitions, term-to-term and position-to-term rules, linear (arithmetic) sequences, quadratic sequences, geometric sequences, the special sequences, recognising and generating sequences, and using the n th term to solve problems.

Working space. Ruled lines are provided after each question — show *all* of your working there. For any sequence question, start by writing down the first differences; they tell you immediately what kind of sequence you are dealing with. Harder questions have a teal **Hint** box; try the question first and use the hint only if you are stuck.

Always check. Substitute at least two values of n back into your n th term formula before you move on. This one habit catches nearly every error in this topic.

Checking your answers. Full step-by-step solutions, a marking scheme for the exam paper, and a quick answer key are in the separate booklet “*Sequences — Solutions & Answer Key*.” Try each question honestly before you look.

1 Part I — Topic-by-Topic Exercises

1.1 Key Definitions and Rules

Exercise D1 [Basic]

For the sequence 6, 13, 20, 27, 34, ... write down:

- (a) a_1 (b) a_4 (c) the term-to-term rule

Exercise D2 [Basic]

Write down the first four terms of the sequence described by the term-to-term rule: *start at 40 and subtract 6 each time.*

Exercise D3 [*Standard*]

Write down the first five terms of the sequence whose n th term is $a_n = 4n + 5$.

Exercise D4 [*Standard*]

Write down the first four terms of the sequence whose n th term is $a_n = n^2 + 3$.

Exercise D5 [*Intermediate*]

Consider the sequence 2, 9, 16, 23, ...

- (a) Write down its term-to-term rule.
 - (b) Write down its position-to-term rule (n th term).
 - (c) Explain which rule you would use to find the 100th term, and why. Then find that term.
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Preview ends here

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