# Arithmetic Series

*Practice Worksheet (Edexcel IGCSE 4MA1 November 2024 1H Style)*

## Section A — Core practice

### I Do

An arithmetic series has first term $a$ and common difference $d$.
The sum of the first 30 terms of the arithmetic series is 4395.
The sum of the 10th term and the 20th term is 284.

Work out the sum of the first 45 terms of the arithmetic series.
Show clear algebraic working.

*Watch the November 2024 Q19 walkthrough*

### We Do

An arithmetic series has first term $a$ and common difference $d$.
The sum of the first 25 terms of the arithmetic series is 2125.
The sum of the 5th term and the 15th term is 170.

Work out the sum of the first 40 terms of the arithmetic series.
Show clear algebraic working.

## Section A — Core practice

### You Do 1

An arithmetic series has first term $a$ and common difference $d$.
The sum of the first 15 terms of the arithmetic series is 555.
The sum of the 3rd term and the 8th term is 54.

Work out the sum of the first 30 terms of the arithmetic series.
Show clear algebraic working.

### You Do 2

An arithmetic series has first term $a$ and common difference $d$.
The sum of the first 18 terms of the arithmetic series is 639.
The sum of the 6th term and the 12th term is 68.

Work out the sum of the first 30 terms of the arithmetic series.
Show clear algebraic working.

## Section B — Extension practice

### I Do

An arithmetic series has first term $a$ and common difference $d$.
The sum of the first 50 terms of the arithmetic series is 4025.
The sum of the 20th term and the 35th term is 173.

Work out the sum of the first 60 terms of the arithmetic series.
Show clear algebraic working.

### We Do

An arithmetic series has first term $a$ and common difference $d$.
The sum of the first 40 terms of the arithmetic series is 4060.
The sum of the 10th term and the 25th term is 173.

Work out the sum of the first 55 terms of the arithmetic series.
Show clear algebraic working.

## Section B — Extension practice

### You Do 1

An arithmetic series has first term $a$ and common difference $d$.
The sum of the first 30 terms of the arithmetic series is 742.5.
The sum of the 8th term and the 22nd term is 48.

Work out the sum of the first 45 terms of the arithmetic series.
Show clear algebraic working.

### You Do 2

An arithmetic series has first term $a$ and common difference $d$.
The sum of the first 25 terms of the arithmetic series is 650.
The sum of the 5th term and the 15th term is 64.

Work out the sum of the first 40 terms of the arithmetic series.
Show clear algebraic working.

# Answer key

## Section A — Core practice

I Do: Sum of the first 45 terms = 9630

We Do: Sum of the first 40 terms = 3400

You Do 1: Sum of the first 30 terms = 2010

You Do 2: Sum of the first 30 terms = 1605

## Section B — Extension practice

I Do: Sum of the first 60 terms = 5730

We Do: Sum of the first 55 terms = 7645

You Do 1: Sum of the first 45 terms = 1620

You Do 2: Sum of the first 40 terms = 440