Exercise 1

Paper 1 style · No calculator

1 5 marks SL 1.2 ●○○ Routine

In an arithmetic sequence, $u_4 = 17$ and $u_9 = 42$.

(a) Find the common difference. **[2]**

(b) Find the first term. **[1]**

(c) Find u_{25}. **[2]**

The markscheme is on the next page: try the question first. Written and verified by a practising IB mathematics teacher, produced with AI assistance; solved twice and recomputed by software. Not affiliated with or endorsed by the International Baccalaureate Organization.
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MARKSCHEME (a)

$u_9 - u_4 = 5d = 25$ (M1)

$d = 5$ A1

Total 2 marks

Note Or $u_1 + 3d = 17$ and $u_1 + 8d = 42$.

MARKSCHEME (b)

$u_1 = 17 - 3 \times 5 = 2$ A1

Total 1 mark

MARKSCHEME (c)

$u_{25} = 2 + 24 \times 5$ (M1)

$= 122$ A1

Total 2 marks