

- 2 The sum of the first  $n$  terms of an arithmetic series is  $S_n$

Given that  $S_n = \sum_{r=1}^n (4r + 1)$

- (a) show that  $S_n = n(3 + 2n)$  (4)

The  $r$ th term of this arithmetic series is  $t_r$

Given that  $S_{n+3} = S_n + 3t_{15}$

- (b) find the value of  $n$ . (4)

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