

9 (a) Show that $\sum_{r=1}^n (5r - 1) = \frac{n}{2}(3 + 5n)$ (3)

(b) Hence, or otherwise, evaluate $\sum_{r=10}^{20} (5r - 1)$ (3)

The sum of the first n terms of an arithmetic series is S_n where $S_n = \sum_{r=1}^n (5r - 1)$

The r th term of this series is u_r

Given that $S_n = 12u_{n+1} + 52$

(c) find the value of n (5)

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Question 9 continued

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Question 9 continued

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(Total for Question 9 is 11 marks)

