

- 5 The sum of the first 10 terms of an arithmetic series A is $36k + 1$ where k is a constant.

The 6th term of A is $4k + 1$

- (a) (i) Find an expression in terms of k for the common difference of A

- (ii) Show that the first term of A is -8

(5)

Given that the 4th term of A is 7

- (b) show that $k = 4$

(2)

The sum of the first n terms of A is S_n and the n th term of A is U_n

- (c) Find the value of n such that $S_n = 5U_{n+10} + 105$

(4)

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(Total for Question 5 is 11 marks)

