9 An arithmetic progression has first term a and common difference d. The third term is 13 and the tenth term is 41.

(a) Find the value of a and of d. [4]

(b) Find the number of terms required to give a sum of 2555. [4]

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(c) Given that S_n is the sum to n terms, show that $S_{2k} - S_k = 3k(1+2k)$. [4]