5 An arithmetic progression is such that the fourth term is 25 and the ninth term is 50.

(a) Find the first term and the common difference. [3]

(b) Find the least number of terms for which the sum of the progression is greater than 25 000. [3]

6 The first three terms, in ascending powers of x, in the expansion of $\left(1-\frac{2x}{9}\right)^{18}(1+3x)^3$ are written in the form $1+ax+bx^2$, where a and b are constants. Find the exact values of a and b. [7]

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