1. The arithmetic series S is given by

$$S = 2 + 5 + 8 + 11 + ... + 254$$

Find

(a) the number of terms in the series,

(2)

(b) the sum of the series.

(2)

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Question 1 continued

(Total for Question 1 is 4 marks)

2. (a) Find the first 4 terms, in ascending powers of x, of the binomial expansion of

$$(2 - 5x)^8$$

giving each term in simplest form.

(4)

This expansion is to be used to find an approximation for 2.05^8

(b) State the value of x that should be used.

(*There is no need to carry out this calculation.*)

(1)

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