1. An arithmetic series starts

$$78 + 75 + 72 + ...$$

Find

(a) the 18th term in the series,

(2)

(b) the sum of the first 100 terms of the series.

(2)

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Question 1 continued

(Total for Question 1 is 4 marks)

2. The first 4 terms, in ascending powers of x, in the binomial expansion of

$$(1 + px)^{10}$$

are

$$1 + 15x + qx^2 + rx^3$$

where p, q and r are constants.

Find the value of p, the value of q and the value of r.

(6)

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