

## STEP II, 2007, Q7 EC

- 7 Part (i) was well done by most of those who attempted this question, but many then found it difficult to develop the strategy in part (ii). A certain amount of trial and error is needed to complete the squares in an expression in terms of both  $\alpha$  and  $\beta$ , but the coefficients (in particular,  $1\alpha^2$ ,  $1\beta^2$  and  $26\beta^2k^2$ ) do not permit many possibilities. This question demanded some stamina, as Mathematics at university level also does.



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