

STEP II, 2005, Q5 EC

Q5 This was not a popular question and some candidates made absolutely no progress.

Some responses at least got as far as establishing that $2r = b + c - a$ and so went on to get a result for R in terms of a, b, c . The transposition of the expression obtained into a quadratic function, Q , of q proved to be beyond most.

The calculus based responses to the final part were usually incomplete in that the nature of the stationary point of Q was not considered. Those who used an exclusively algebraic method fared better. Generally, this strategy was worked with impressive accuracy and the interpretation of the result obtained for Q in terms of the displayed inequality was usually satisfactory.



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