



## STEP II, 2009, Q13 EC

**Q13** This question was only marginally more popular than Q11, but those who did attempt it were usually well rewarded with marks; candidates averaging almost 11 on it. The careful use of binomial expansions, and remembering to *use* the result  $q = 1 - p$  throughout, made this an eminently approachable question in principle. Those who stumbled did so over little arithmetical slips, such as with the careless handling of minus signs. Once an error has been introduced, although method marks are there to be had, the final satisfaction of getting to the answer is never to be experienced without going back to correct it.



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