

STEP III, 2011 Q12 EC

12. This question ran a close second to number 11 for unpopularity, but reflected the same level of success. Most attempts followed the method of the question, and if they got off on the right foot, often got most of the way through. Some struggled with the algebra for the variance result, and a few tripped up on the standard pgf for the number of tosses to the first head. Strangely, having found the pgf for Y successfully, and used it or the results of the question for expectation and variance, the final probabilities were often wrong, and not merely from overlooking the initial case.



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