

STEP II, 2013, Q6 EC

6. The algebra required for the first part of the question proved to be quite challenging for a number of candidates, but most were able to reach the required answer. The proof by induction in the second part of the question was generally well done, although a number of candidates did not write up the process clearly. In the final part of the question it was clear that many candidates had identified the relationship between the sequences and Fibonacci numbers and some candidates therefore stated that the limit would be the golden ratio, but without any supporting calculations. In the final part there were few responses which clearly explained that the new sequence would still satisfy the conditions required if it were started at a later term.



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