

## **STEP II, 2007, Q12 EC**

- 12 Very few tree diagrams were seen here, and hence very few correct solutions were constructed; a clear tree diagram is invaluable when attempting a complicated probability question such as part (ii). Most candidates identified some (if not all) of the possible outcomes, but many mistakes were made (for example, writing a denominator of  $N$  rather than  $N + 1$  or  $N - 1$ ).

The subsequent algebraic simplification was found to be very demanding. Candidates would have probably made more progress if they had been more willing to factorise groups of terms which had obvious common factors, rather than (for example) attempting to write all the fractions with a common denominator.



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