



## **STEP II, 2016, Q12 EC**

The first part of the question required the proof to follow from the result quoted in the question. For this reason, solutions that explained the result by drawing a Venn diagram were not awarded full marks. In many cases, sets needed to be more clearly defined (for example  $A \cap B \cup C$ ). This was again an example of a question with a given answer where many candidates did not fully explain all of the steps in the proof. The result for the union of four sets was generally well answered, although there were several answers in which not all of the pairwise intersections were identified.

Many candidates were able to calculate the probabilities required in parts (i), (ii) and (iii), but few were able to apply the results from the start of the question to the final calculations.



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